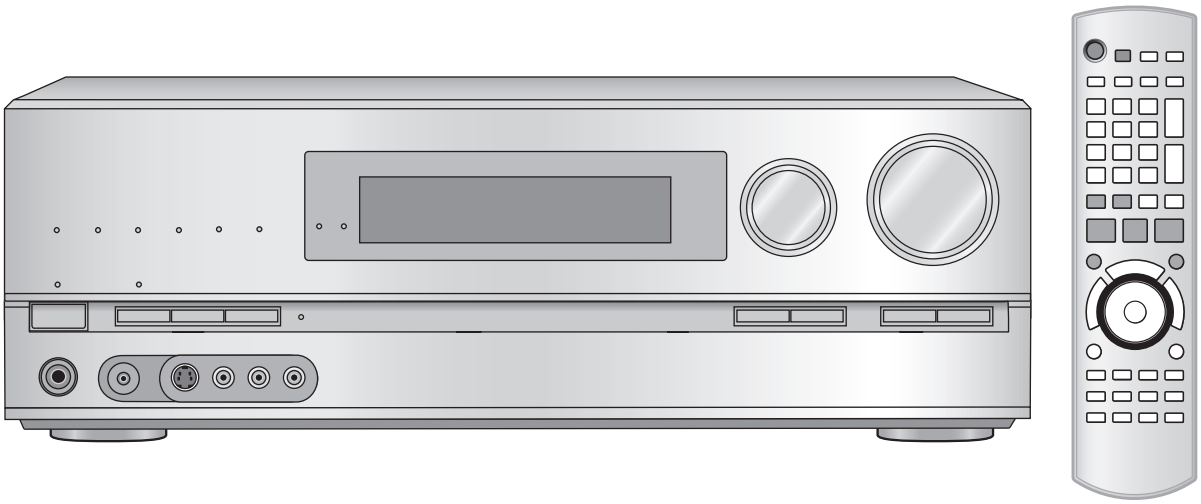
Panasonic

Operating Instructions

AV Control Receiver

Model No. **SA-BX500**



Dear customer

Thank you for purchasing this product.
Before connecting, operating or adjusting this product, please read the instructions completely.
Please keep this manual for future reference.

If you have any questions, contact
In the U.S.A.: 1-800-211-PANA (7262)
In Canada: 1-800-561-5505

For U.S.A. only
The warranty can be found on page 57.
For Canada only
The warranty can be found on page 58.

As an ENERGY STAR® Partner*, Panasonic has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

* For Canada only: The word “Participant” is used in place of the word “Partner”.

HDMI™ HIGH-DEFINITION MULTIMEDIA INTERFACE

VIERA Link™

PP En Cf

RQT9223-Y
H0608VC0

CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION!

Do not place anything on top of this unit or block the heat radiation vents in any way. In particular, do not place DVD recorder or CD/DVD players on this unit as heat radiated from it can damage your software.

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Listening caution

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion-and, most importantly, without affecting your sensitive hearing.

We recommend that you avoid prolonged exposure to excessive noise.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing.
Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.
To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE,

- **DO NOT EXPOSE THIS APPARATUS TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.**
- **USE ONLY THE RECOMMENDED ACCESSORIES.**
- **DO NOT REMOVE THE COVER (OR BACK); THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

CAUTION!

DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.

The socket outlet shall be installed near the equipment and easily accessible.
The mains plug of the power supply cord shall remain readily operable.
To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from AC receptacle.

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HDAVI Control™ is a trademark of Matsushita Electric Industrial Co., Ltd.

EZ Sync™ is a trademark of Matsushita Electric Industrial Co., Ltd.

VIERA Link™ is a trademark of Matsushita Electric Industrial Co., Ltd.

Manufactured under license from Dolby Laboratories.
Dolby, Pro Logic, and the double-D symbol are trademarks of Dolby Laboratories.

Manufactured under license under U.S. Patent #'s: 5,451,942; 5,956,674; 5,974,380; 5,978,762; 6,226,616; 6,487,535 & other U.S. and worldwide patents issued & pending. DTS is a registered trademark and the DTS logos, Symbol, DTS-HD and DTS-HD Master Audio are trademarks of DTS, Inc.
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THE FOLLOWING APPLIES ONLY IN CANADA.

This device complies with RSS-210 of the IC Rules.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference,
(2) This device must accept any interference received, including interference that may cause undesired operation of the device.

-If you see this symbol-

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union.
If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit. Follow the safety instructions on the unit and the applicable safety instructions listed below. Keep these operating instructions handy for future reference.

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this apparatus near water.

6) Clean only with dry cloth.

7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11) Only use attachments/accessories specified by the manufacturer.

12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

THE FOLLOWING APPLIES ONLY IN THE U.S.A.

FCC Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC caution: To maintain compliance with FCC regulations, shielded interface cables must be used with this equipment. Operation with non-approved equipment or unshielded cables may result in interference to radio and TV reception. Any changes or modifications not approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

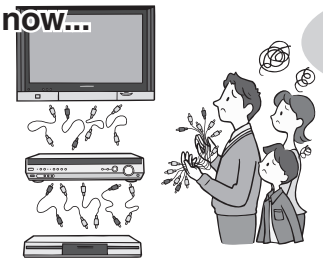
Responsible Party:
Panasonic Corporation of North America
One Panasonic Way
Secaucus, NJ 07094

Support Contact:
Panasonic Consumer Electronics Company
Telephone No.: 1-800-211-PANA (7262)

Enjoying the Home Theater has become easy!

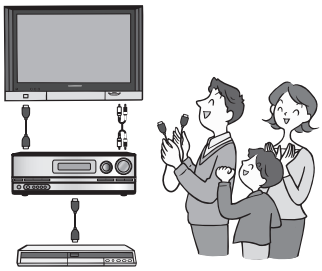
Connections

Until now...



Many different cables were necessary.

With SA-BX500!

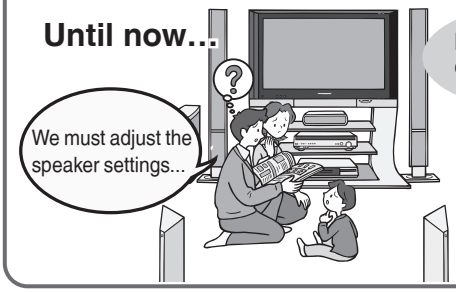


Simple connections using 2 HDMI cables and 1 stereo connection cable!

∗ Other connections are also possible.

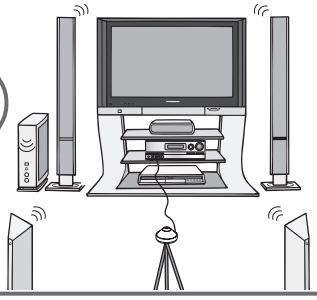
Settings

Until now...



Manual setting for each speaker.

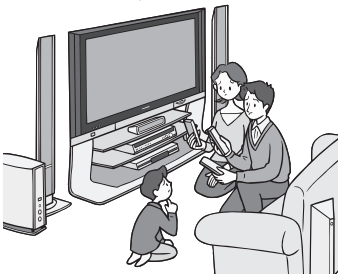
With SA-BX500!



Automatic speaker setup is the easiest way to adjust the speaker settings (➔ pages 24, 25).

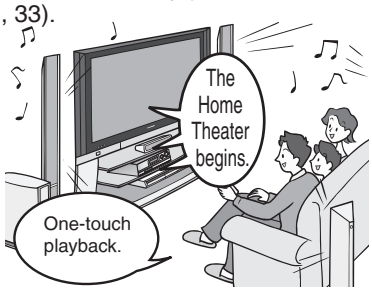
VIERA Link

Previous Home Theater systems required multiple operations.



When you connect the unit to your TV (VIERA) and DVD recorder (DIGA) compatible with VIERA Link

Press just one button and enjoy the Home Theater effect (➔ pages 32, 33).



Enjoy the full surround sound from all speakers connected!!

1

How can we enjoy TV with surround sound?

Connections and settings are all complete.

2

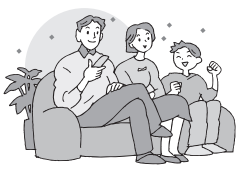
TV outputs 2-channel stereo sounds and only front speakers are reproducing stereo audio output.

3

Just press SURROUND on the unit PLIIx NEO:6 SFC MUSIC MOVIE on the remote control to enjoy surround sound (➔ pages 28, 29).

4

Great!! We can enjoy TV with surround sound.



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Supplied accessories

Please check and identify the supplied accessories.
Use numbers indicated in parentheses when asking for replacement parts.
(Product numbers correct as of June 2008. These may be subject to change.)
Only for the U.S.A.: To order accessories, refer to "Accessory Purchases" on page 57.
Only for Canada: To order accessories, call the dealer from whom you have made your purchase.

- ☐ **1 AC power supply cord (K2CB2CB00021)**
- ☐ **1 FM indoor antenna (RSA0007-M)**
- ☐ **1 AM loop antenna (N1DAAAA00002)**
- ☐ **1 Front terminal cover (RGK2137A-K)**
- ☐ **1 Setup microphone (L0CBAB000128)**
- ☐ **2 Batteries**
- ☐ **1 Remote control (N2QAKB000069)**

(Canada only)
The enclosed Canadian French label sheet corresponds to the English display on the front and back sides of the unit.

Control guide

This unit

Lights on when playing a disc using multi-channel LPCM format

Lights on when playing a disc using high definition audio format such as Blu-ray Disc

Lights on when the following multi-channel playback settings are used
- When playing multi-channel sources
- When using surround effects for two-channel sources, etc.

Standby indicator [⏻]
When the unit is connected to the household AC outlet, this indicator lights up in standby mode and goes out when the unit is turned on.

Standby/on switch [POWER ⏻/I]
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

For connecting headphones (→ page 41)

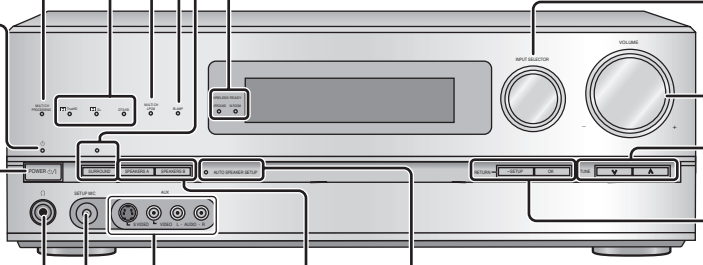
For connecting the setup microphone (→ page 24)

For connecting a video camera etc. (→ page 21)

Lights on when BI-AMP is on (→ page 51)

For switching the surround playback on and off (The indicator lights up when the surround playback is on.) (→ page 29)

Lights up under the condition that using the digital transmitter (SH-FX67) is possible



For selecting input sources (→ pages 15, 26 and 41)

For adjusting volumes (→ pages 15, 26 and 41)

For tuning the radio (→ page 49)

For SETUP operations (→ page 36)

Lights on during the auto speaker setup (→ page 24)

For selecting front speakers (→ pages 24, 26 and 27)

Display

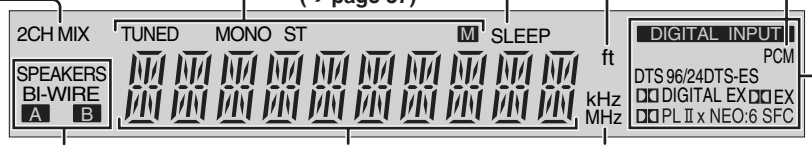
Lights on when 2-channel mix is functioning (→ pages 27, 41 and 51)

Radio display

Lights on when sleep timer is set (→ page 37)

Unit display

Lights on when PCM FIX is selected (→ page 39)



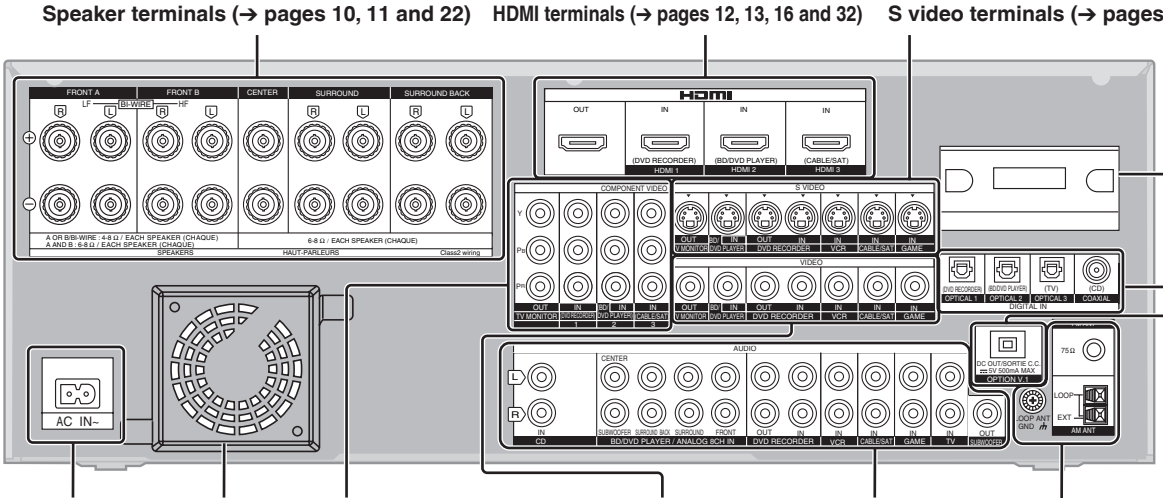
Lights on when the corresponding digital source is input (→ page 50)

Displays front speakers in use (→ pages 15, 24, 26 and 27)

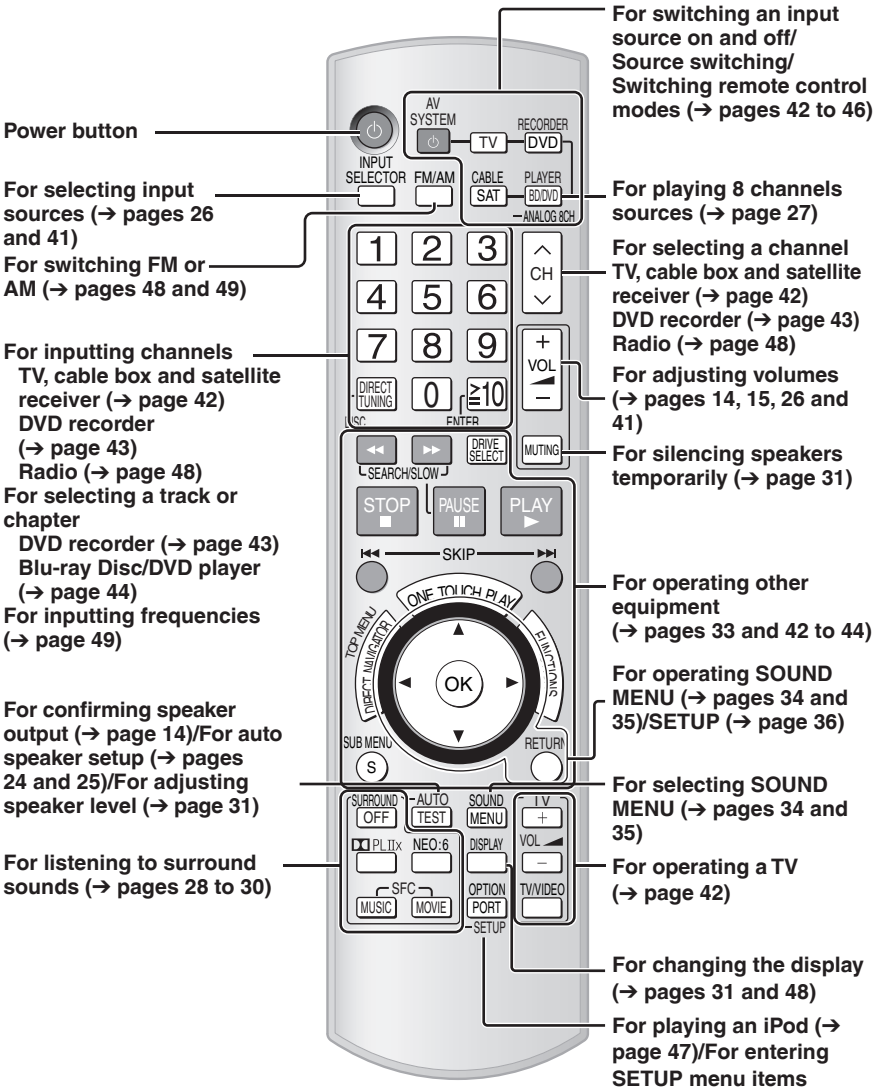
General display

Frequency unit indicators

Rear Panel

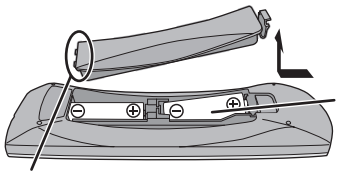

Speaker terminals (→ pages 10, 11 and 22)
HDMI terminals (→ pages 12, 13, 16 and 32)
S video terminals (→ pages 18 and 21)
Digital transmitter terminal (→ page 23)
Digital input terminals (→ pages 12, 13, 16 to 20 and 32)
Option port terminal (→ page 47)
AC inlet (→ page 12)
Exhaust hole (Cooling fan)
Component Video terminals (→ page 19)
Video terminals (→ pages 17 and 21)
Audio terminals (→ pages 11, 16 to 21)
Antenna terminal (→ page 23)

Remote control


Power button
For selecting input sources (→ pages 26 and 41)
For switching FM or AM (→ pages 48 and 49)
For inputting channels
TV, cable box and satellite receiver (→ page 42)
DVD recorder (→ page 43)
Radio (→ page 48)
For selecting a track or chapter
DVD recorder (→ page 43)
Blu-ray Disc/DVD player (→ page 44)
For inputting frequencies (→ page 49)
For confirming speaker output (→ page 14)/For auto speaker setup (→ pages 24 and 25)/For adjusting speaker level (→ page 31)
For listening to surround sounds (→ pages 28 to 30)
For switching an input source on and off/ Source switching/ Switching remote control modes (→ pages 42 to 46)
For playing 8 channels sources (→ page 27)
For selecting a channel TV, cable box and satellite receiver (→ page 42) DVD recorder (→ page 43) Radio (→ page 48)
For adjusting volumes (→ pages 14, 15, 26 and 41)
For silencing speakers temporarily (→ page 31)
For operating other equipment (→ pages 33 and 42 to 44)
For operating SOUND MENU (→ pages 34 and 35)/SETUP (→ page 36)
For selecting SOUND MENU (→ pages 34 and 35)
For operating a TV (→ page 42)
For changing the display (→ pages 31 and 48)
For playing an iPod (→ page 47)/For entering SETUP menu items (→ page 36)

Batteries

Press on the tab to open.

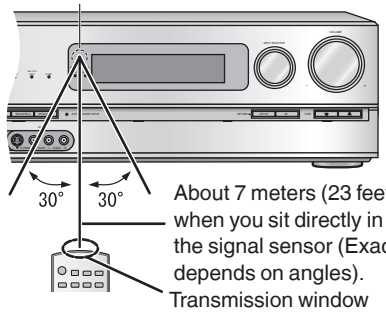


Place this side in before the other side when you close.

- Insert so the poles (⊕ and ⊖) match those in the remote control.
- Do not use rechargeable type batteries.
- Do not heat or expose to flame.
- Do not leave the batteries in an automobile exposed to direct sunlight for a long period of time with doors and windows closed.

Use

Remote control signal sensor


30°
30°
About 7 meters (23 feet) or less when you sit directly in front of the signal sensor (Exact distance depends on angles).
Transmission window

Caution

- Do not place an object between the signal sensor and the remote control.
- Do not place the signal sensor under direct sunlight or the strong light of an inverter fluorescent lamp.
- Keep the transmission window and the unit's sensor free from dust.

When you set the unit in a cabinet

The remote controlling range may decrease depending on the thickness or colors of glass cabinet doors.

Quick guide

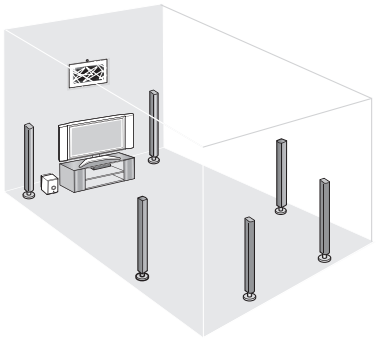
This section guides you through the easiest and simplest way to setup the Home Theater.
Refer to the steps indicated below. The steps 1 to 4 indicate the method one by one from when you purchase the unit until you can enjoy the Home Theater.

- Turn off all equipment before making any connections.
- Peripheral equipment sold separately unless otherwise indicated.
- To connect equipment, refer to the appropriate operating instructions.

Step 1

Placing speakers (→ page 9)

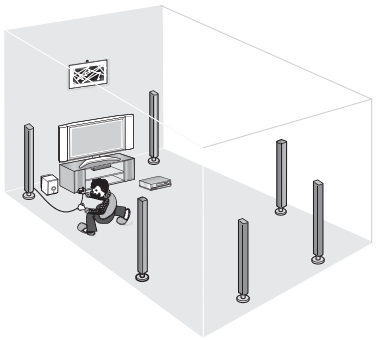
You can enjoy the best sound quality by setting speakers properly.



Step 2

Connecting speakers (→ pages 10 and 11)

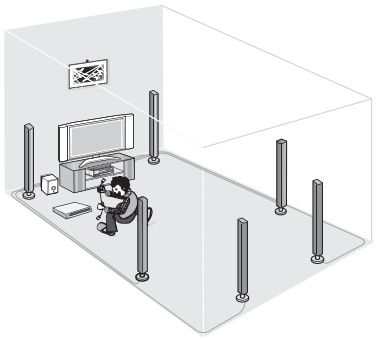
You can install and connect speakers in 7.1ch setting.



Step 3

Connecting a TV and a Blu-ray Disc/DVD player (→ pages 12 and 13)

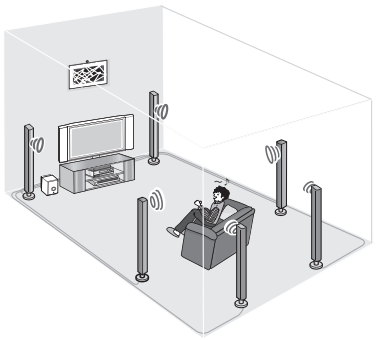
You can easily enjoy high-quality pictures and sounds.



Step 4

Watching TV or DVD (→ pages 14 and 15)

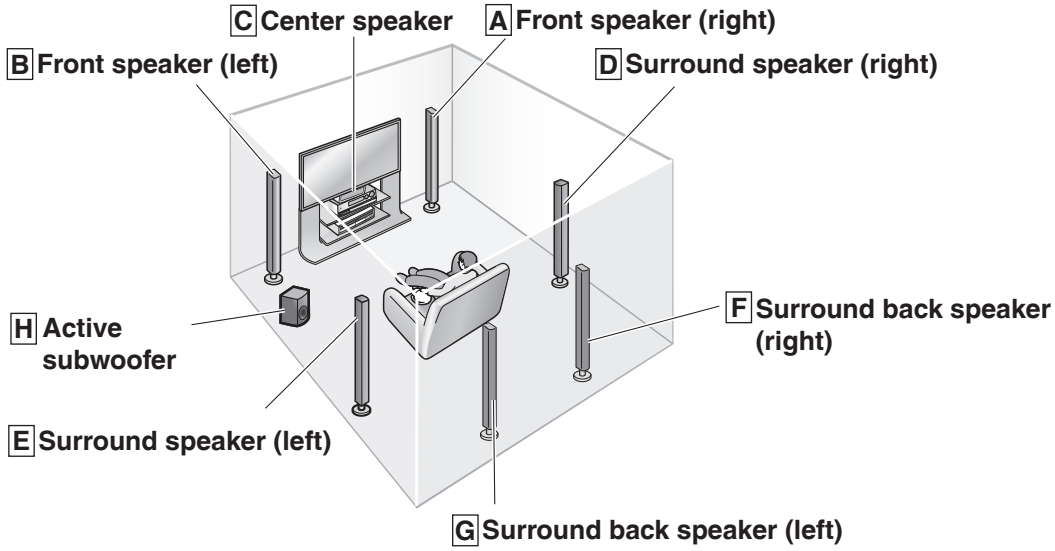
You can enjoy TV and DVD with surround sound.



Step 1 Placing speakers

5.1, 6.1, 7.1 etc. channel playback is possible on this unit. This page introduces speaker settings for 7.1 channel playback.
The ideal placement is to set each speaker (excluding the subwoofer) the same distance away from the listening-viewing position.
Measure the actual distance from each of the connected speakers to the listening-viewing position and perform steps instructed in “Setting distances” (➔ page 37) or perform steps instructed in “Auto speaker setup using the setup microphone” (➔ pages 24 and 25) when you cannot install speakers the same distance away.

Example: Front speakers (2), center speaker (1), surround speakers (2), surround back speakers (2) and subwoofer (1)
A – H in the illustration below correspond to A – H in “Connecting speakers” (➔ pages 10 and 11).


C Center speaker
A Front speaker (right)
B Front speaker (left)
D Surround speaker (right)
H Active subwoofer
F Surround back speaker (right)
E Surround speaker (left)
G Surround back speaker (left)

Front speakers (A right, B left)
Place on the left and right of the TV at seated ear height so that there is good coherency between the picture and sound.

C Center speaker
Place underneath or above the center of the TV.
When you do not install the center speaker, sound assigned to it is distributed to front speakers and output from them.

Surround speakers (D right, E left)
Place on the side of or slightly behind the listening-viewing position.
When you do not install surround speakers, sound assigned to them is distributed to front speakers and output from them.

Surround back speakers (F right, G left)
Place behind the listening-viewing position, about 1 meter (3 feet) higher than ear level.
When you do not install any surround back speaker, sound assigned to them is distributed to surround speakers or front speakers and output from them.

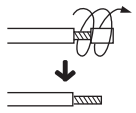
H Active Subwoofer
The subwoofer can be placed in any position as long as it is at a reasonable distance from the TV.

Note
• Aim front faces of all speakers at the listening-viewing position for setting.

Step 2 Connecting speakers

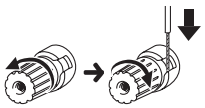
How to connect speaker cables

1



Remove the vinyl covering the tips of speaker cables by twisting it off.

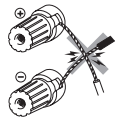
2



Speaker terminals

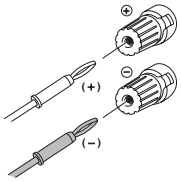
Note

- Connect speaker cables properly to terminals after making sure left and right, and ⊕ and ⊖. Improper connections may cause the unit to develop problems.
- Do not short-circuit speaker cables. The action may damage circuits.



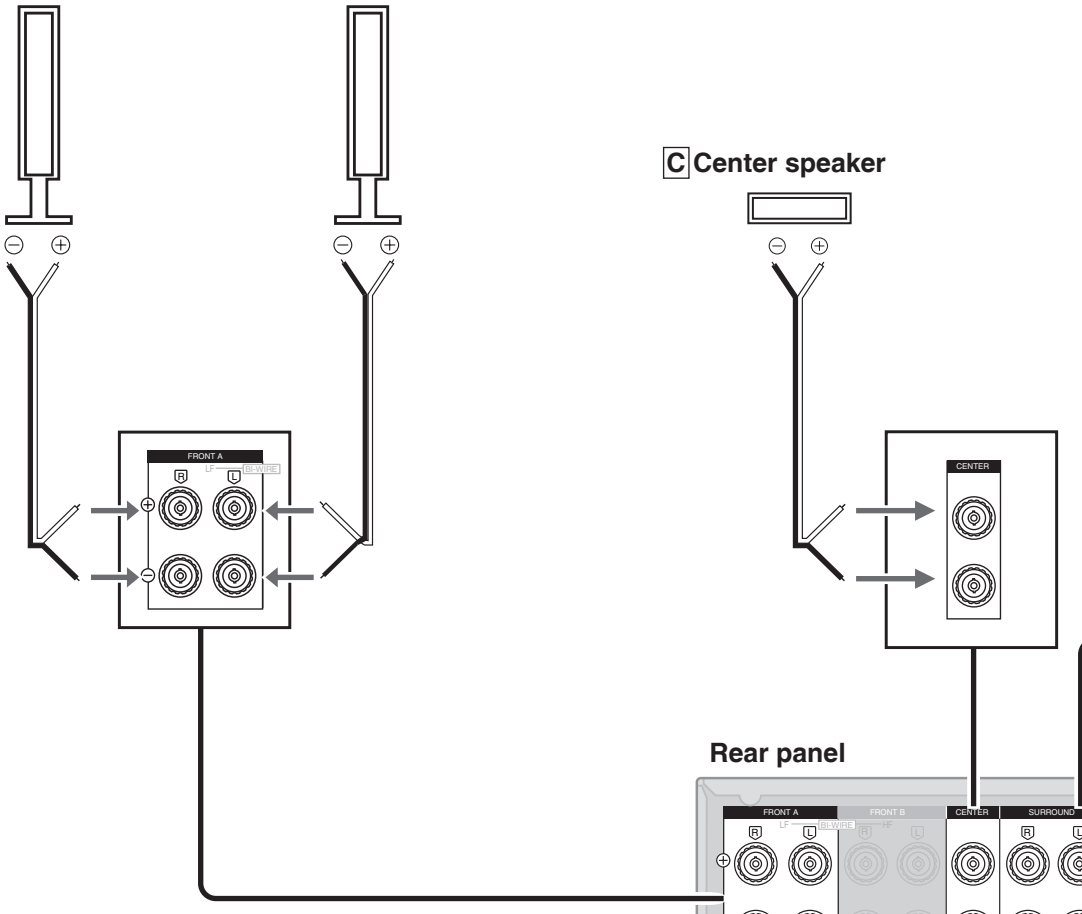
If using 4-mm plug

Turn speaker terminals clockwise and tighten them before inserting plugs into their holes.

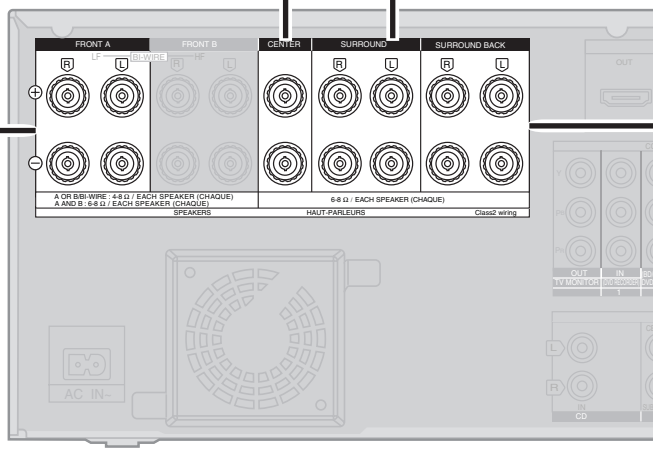


A Front speaker (right) **B Front speaker (left)**

C Center speaker



Rear panel



Speaker impedance

Front A:	**4 to 8 Ω**
Center:	**6 to 8 Ω**
Surround:	**6 to 8 Ω**
Surround back:	**6 to 8 Ω**

Note

- Do not forget to take steps instructed in “Auto speaker setup using the setup microphone” (➔ pages 24 and 25) after connecting a new speaker.
- When connecting speakers with the impedance of 4 Ω, make sure to set “***4 OHMS*** ” in “Setting the speaker impedance” on page 38.

Connection cable

Speaker cable (not included)	**Monaural connection cable** (not included)

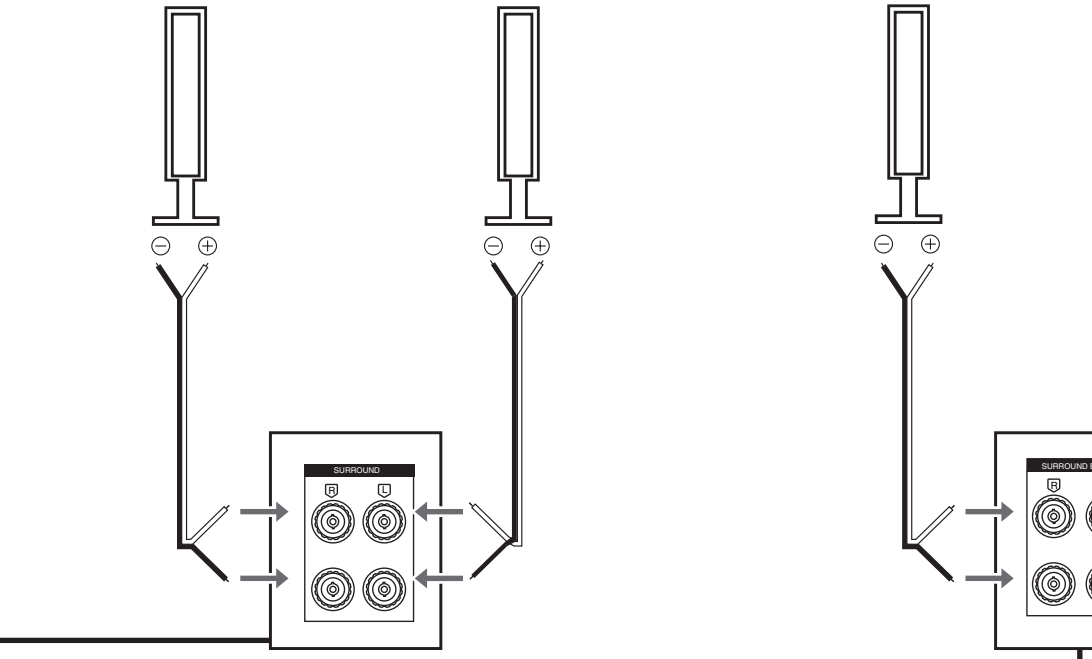
Use the terminal for the left surround back speaker when you place the speakers for 6.1 channel playback.

D Surround speaker (right)

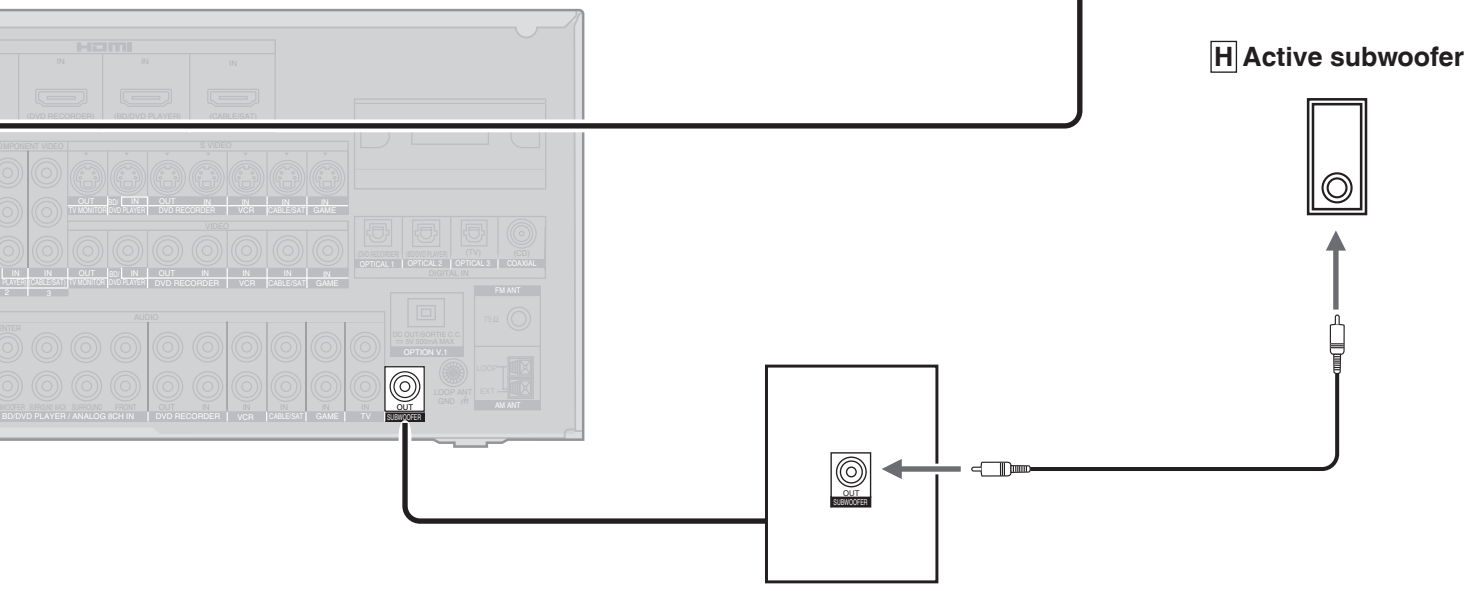
E Surround speaker (left)

F Surround back speaker (right)

G Surround back speaker (left)



H Active subwoofer



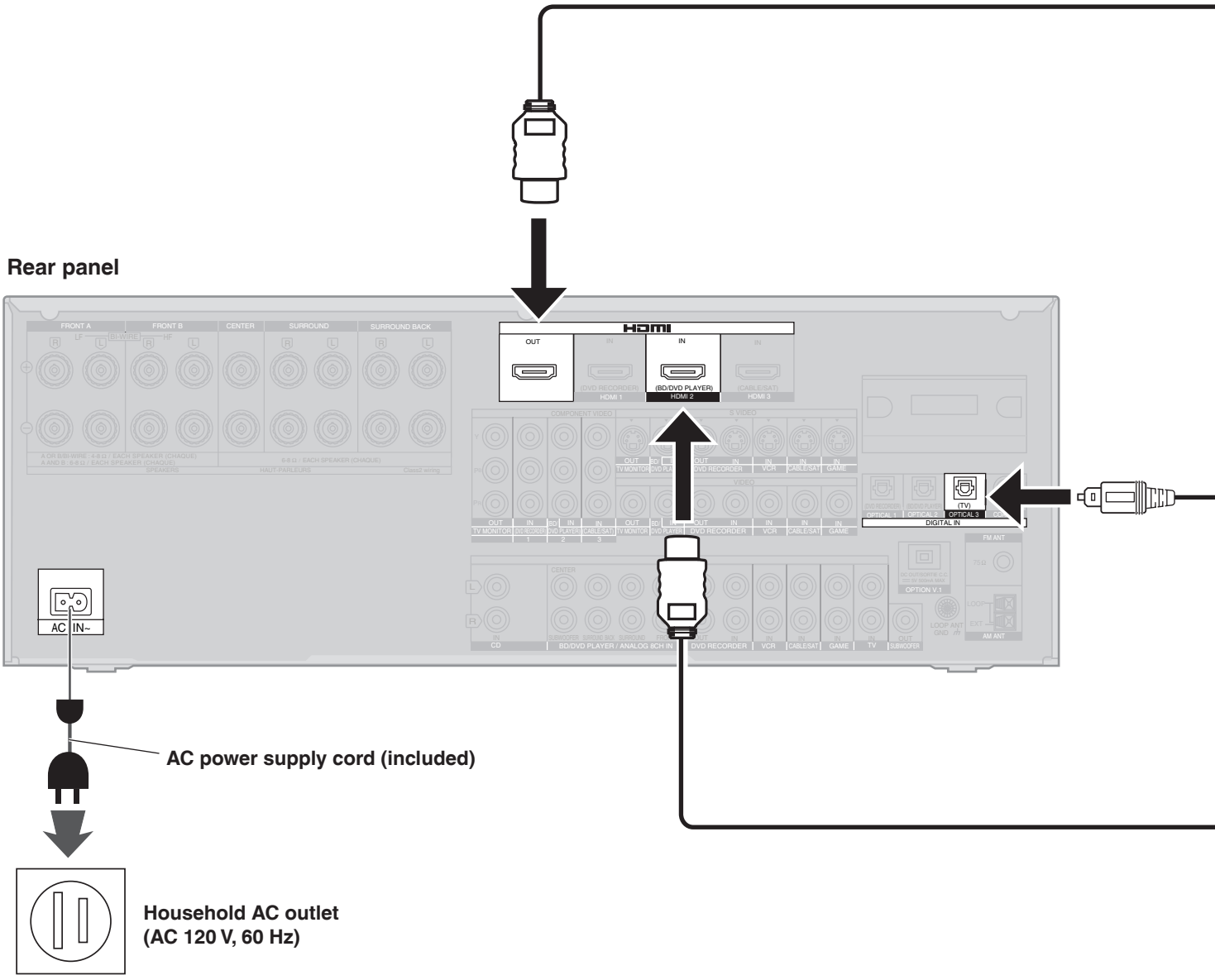
Step 3 Connecting a TV and a Blu-ray Disc/ DVD player

Connecting equipment with HDMI terminal

Connection cable

Video and Audio cable	Audio cable
HDMI Cable (not included) (It is recommended that you use Panasonic's HDMI cable.) Recommended part number: RP-CDHG10 (1.0 m/3.3 ft.), RP-CDHG15 (1.5 m/4.9 ft.), RP-CDHG20 (2.0 m/6.6 ft.), RP-CDHG30 (3.0 m/9.8 ft.), RP-CDHG50 (5.0 m/16.4 ft.), etc.	**Optical fiber cable** (not included)

Rear panel

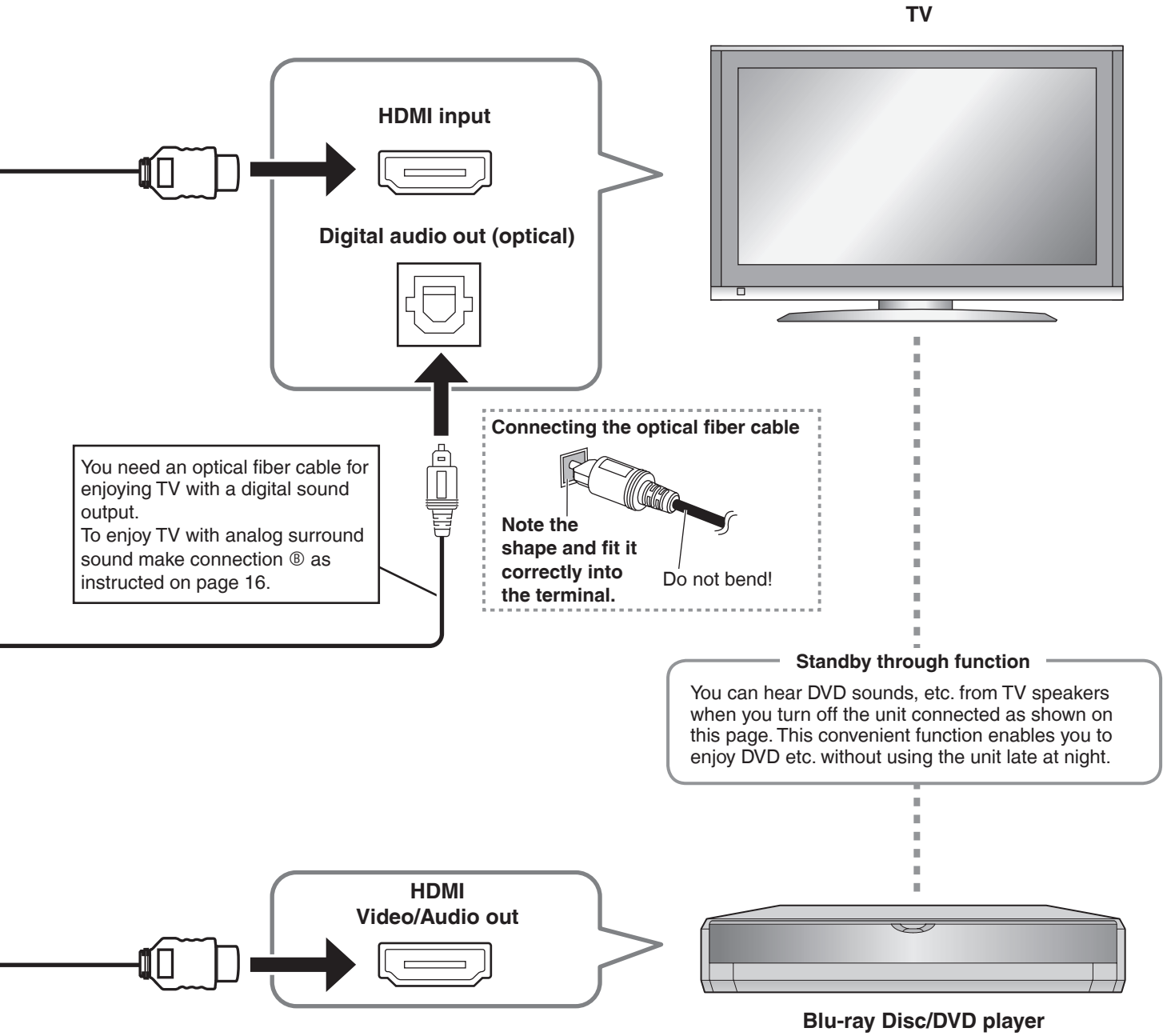


Notes on AC power supply cord

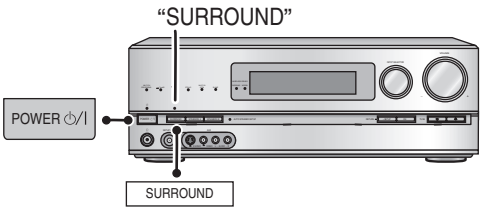
- Connect AC power supply cord after all other cables and cords are connected.
- The included AC power supply cord is for use with this unit only. Do not use it with other equipment.
- Do not use an AC power supply cord from any other type of equipment with this unit.
- The unit's settings remain effective after the AC power supply cord is removed from the household AC outlet.

Note

- **This unit incorporates HDMI™ (V.1.3 with Deep Color) technology** that can reproduce greater color gradation (4096 steps) when connected to a compatible TV. A lower color gradation (256 steps), without deep color, will be reproduced if connected to a TV which does not support deep color.
- Please use High Speed HDMI Cables that have the HDMI logo (as shown on the cover).
- When outputting 1080p signal, please use the HDMI cables 5.0 meters (16.4 feet) or less.
- The audio signal transmitted through HDMI takes priority when you use both HDMI and digital terminals for connection (➔ pages 16 to 20).


TV
HDMI input
Digital audio out (optical)
You need an optical fiber cable for enjoying TV with a digital sound output.
To enjoy TV with analog surround sound make connection Ⓑ as instructed on page 16.
Connecting the optical fiber cable
Note the shape and fit it correctly into the terminal.
Do not bend!
Standby through function
You can hear DVD sounds, etc. from TV speakers when you turn off the unit connected as shown on this page. This convenient function enables you to enjoy DVD etc. without using the unit late at night.
HDMI
Video/Audio out
Blu-ray Disc/DVD player

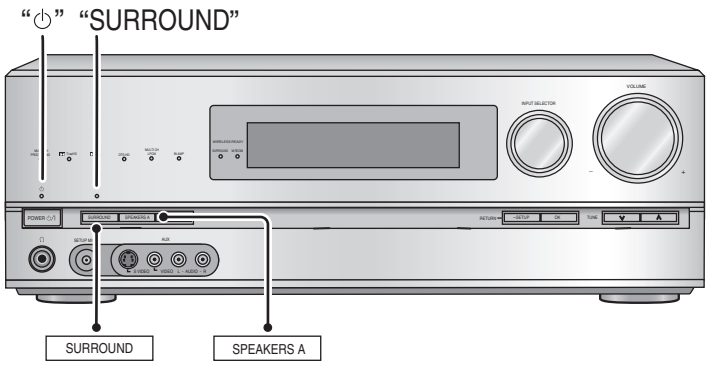
When connection is complete

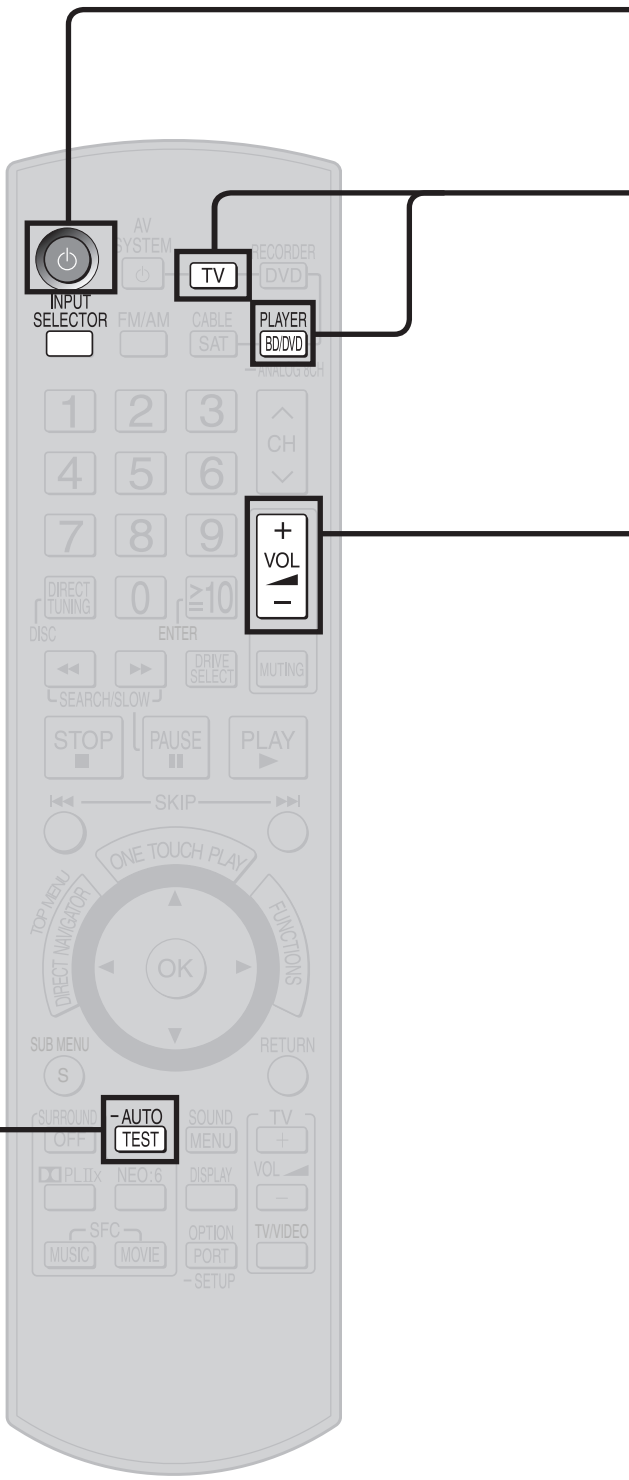


1. **Press** POWER ⏻/I **to turn the unit on.**
2. **Press** SURROUND **to set surround playback.**
   - The "SURROUND" indicator lights on after the setting.
   - You can enjoy 2-channel sources with surround playback.

Step 4 Watching TV or DVD

Preparation **Turn the TV on and switch the TV's input mode (to "HDMI" and others)**





Testing speaker output

You can confirm audio output using the test signal.

1. **Press ⏻ to turn the unit on.**
2. **Press INPUT SELECTOR to select an input source other than "*TV*" or "*BD/DVD P.*".**
3. **Press VOL to adjust the volume range between –30dB and –35dB.**
4. **Press AUTO TEST to test audio output from all connected speakers.**
   - Speakers are displayed in the following order. (The test signal is output only when the connected speaker is displayed.)

   L* → *C* → *R* → *RS* → *SBR* → *SBL* → *LS* → *SUBW

When you feel the volume of each speaker is not balanced with the volume of the front speakers, see page 31 to adjust the volume balance of speakers.

5. **Press AUTO TEST to stop the test signal.**
6. **Lower the volume to the normal listening level using VOL.**

1 **To turn the unit on**

Press POWER ⏻/I

2 **To select "*TV* " or "*BD/DVD P.* "**

Turn

3 **Watch TV or DVD**

4 **To adjust the volume**

Turn

Connections

Basic connections

Connecting equipment with HDMI terminal

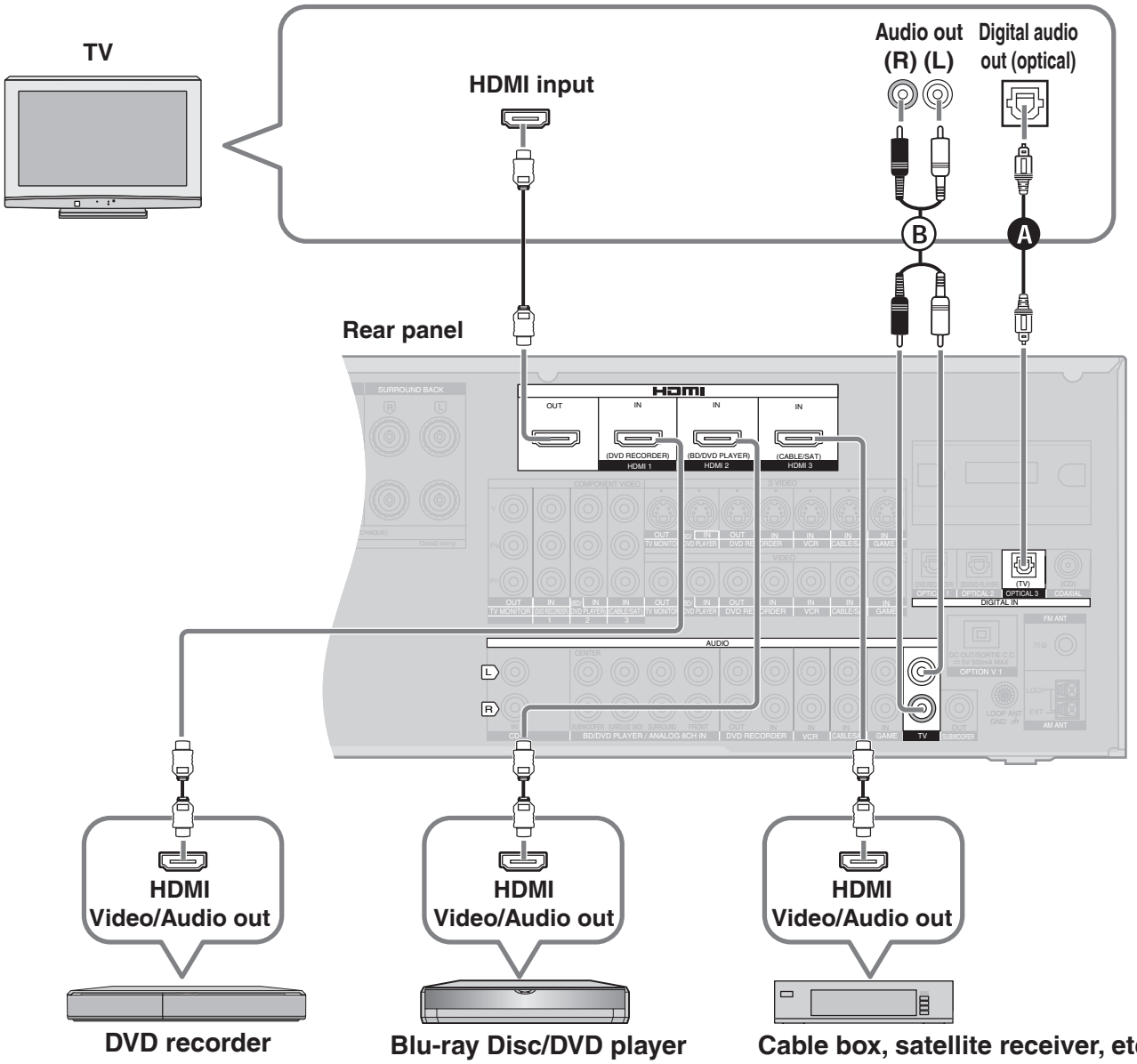
Connection cable

Video and Audio cable	Audio cable	
HDMI cable (not included) Recommended part number: RP-CDHG10 (1.0 m/3.3 ft.), RP-CDHG15 (1.5 m/4.9 ft.), RP-CDHG20 (2.0 m/6.6 ft.), RP-CDHG30 (3.0 m/9.8 ft.), RP-CDHG50 (5.0 m/16.4 ft), etc. 	**Optical fiber cable** (not included) 	**Stereo connection cable** (not included)

HDMI cable notes

- It is recommended that you use Panasonic's HDMI cable.
- This unit incorporates HDMI™ (V.1.3 with Deep Color) technology.
- Please use High Speed HDMI Cables that have the HDMI logo (as shown on the cover).
- When outputting 1080p signal, please use the HDMI cables 5.0 meters (16.4 feet) or less.

To enjoy TV with surround sound, make connection Ⓐ or Ⓑ shown below according to your equipment.



HDMI connection

The HDMI input terminal on the unit's rear is made to specifications that presume connection of a DVD recorder / Blu-ray Disc/ DVD player etc. When other equipment is connected, sounds may not come out of the unit, or pictures shown on the equipment (TV) connected to the HDMI output terminal may be disrupted.

In such cases, see pages 17, 18 and 19 and make connections other than HDMI.

Note

- The audio signal transmitted through HDMI takes priority when you use both HDMI and digital terminals for connection (➔ pages 16 to 20).
- You can change the settings on HDMI 3 terminal according to the equipment to connect (➔ page 39).

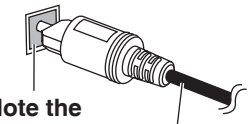
- Turn off all equipment before making any connections.
- Peripheral equipment sold separately unless otherwise indicated.
- To connect equipment, refer to the appropriate operating instructions.

Connecting cables to video and audio terminals (Connecting equipment without HDMI terminal)

Connection cable

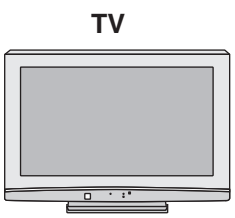
Video cable	Audio cable	
Video connection cable (not included)	**Optical fiber cable** (not included)	**Stereo connection cable** (not included)
		White (L) Red (R)

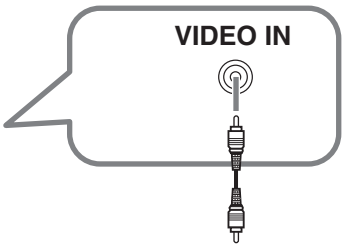
Connecting the optical fiber cable



Note the shape and fit it correctly into the terminal.

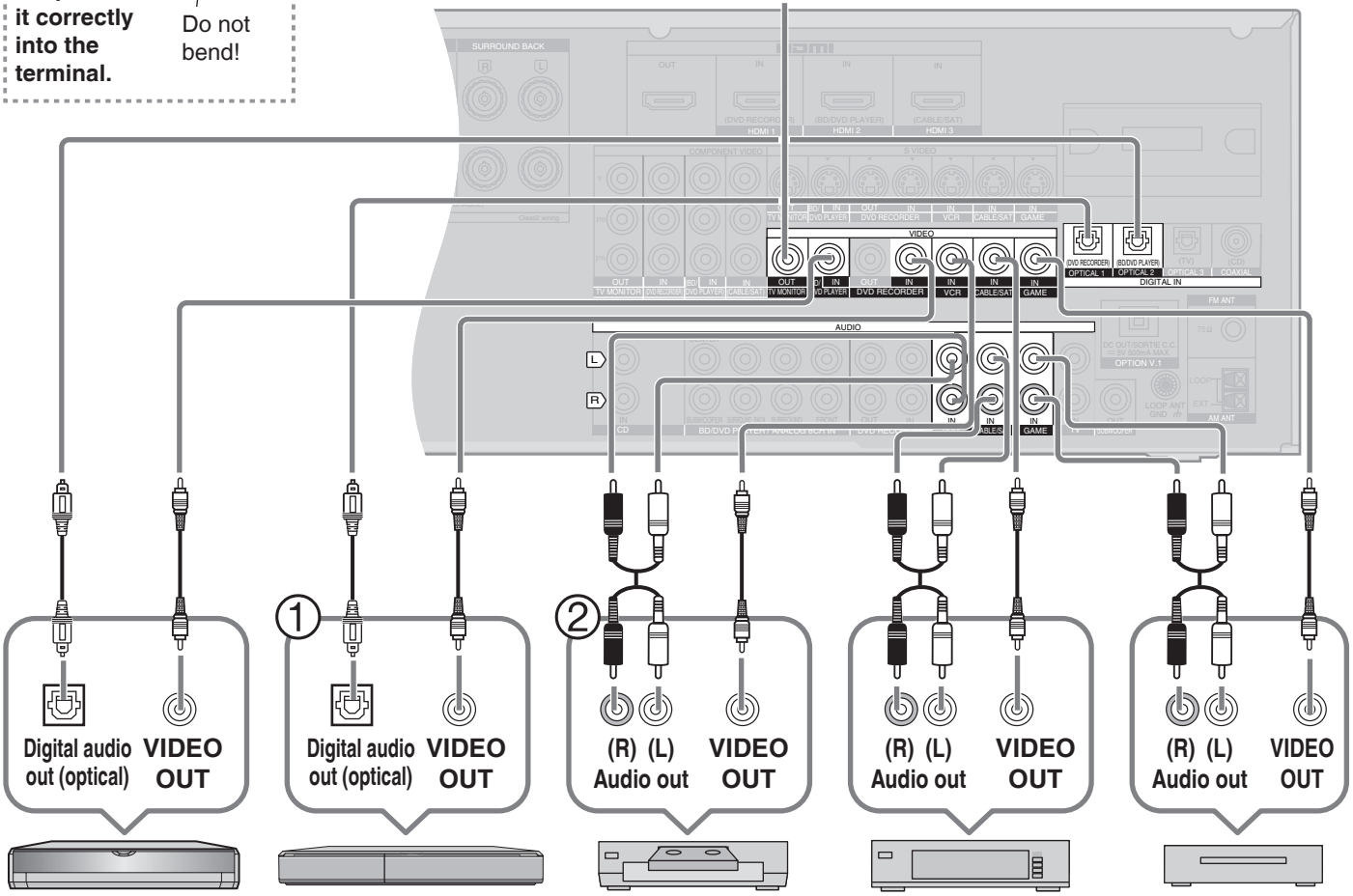
Do not bend!





To enjoy TV with surround sound, make connection Ⓐ or Ⓑ instructed on page 16 according to your equipment.

Rear panel



Blu-ray Disc/ DVD player | **DVD recorder** | **VCR** | **Cable box or satellite receiver** | **Game**

☞ **To connect a DVD recorder with built-in VCR**

(When the DVD recorder has DVD/VHS terminals, make the following connections.)
Connect the DVD output terminal as ① shown above.
Connect the DVD/VHS output terminal as ② shown above.

Note

- When you make HDMI connections (➔ pages 12, 13 and 16), this connection is not necessary.
- The input video signal can be sent out through an output terminal of the same type only.
- You can change the digital input terminal setting according to the equipment to connect (➔ page 39).

■ **Playback is available with the basic connections (➔ page 26).**

In addition To make high-picture-quality connections (➔ pages 18 and 19)

In addition To enjoy analog sounds (➔ page 20)

In addition To connect other equipment, etc. (➔ pages 20 to 23)

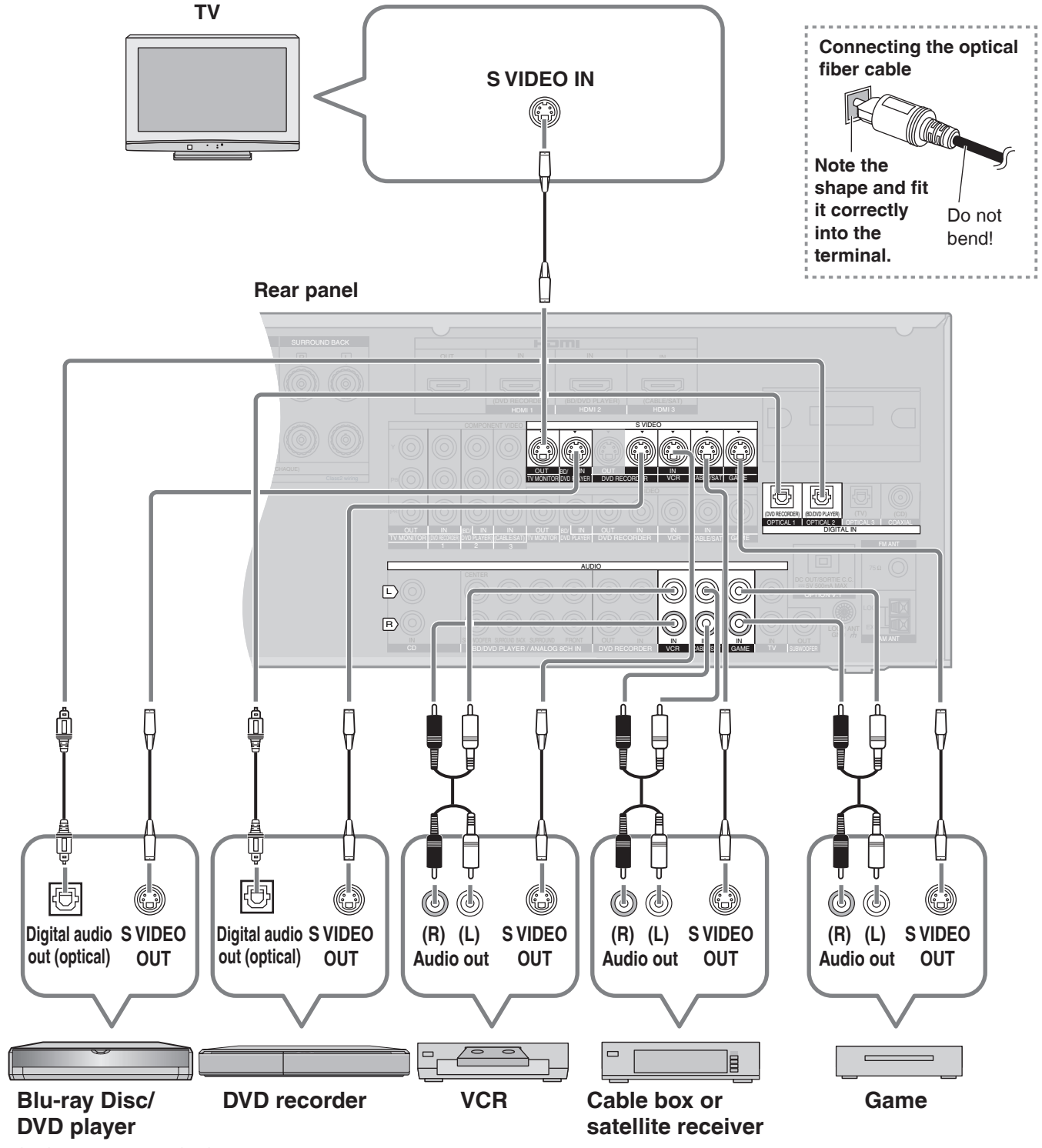
Connections

Connecting cables to S video and audio terminals

Connection cable

Video cable	
S VIDEO connection cable (not included)	
Audio cable	
Optical fiber cable (not included)	**Stereo connection cable** (not included) White (L) Red (R)

To enjoy TV with surround sound, make connection Ⓐ or Ⓑ instructed on page 16 according to your equipment.



Note

- The input video signal can be sent out through an output terminal of the same type only.
- You can change the digital input terminal setting according to the equipment to connect (➔ page 39).

- Turn off all equipment before making any connections.
- Peripheral equipment sold separately unless otherwise indicated.
- To connect equipment, refer to the appropriate operating instructions.

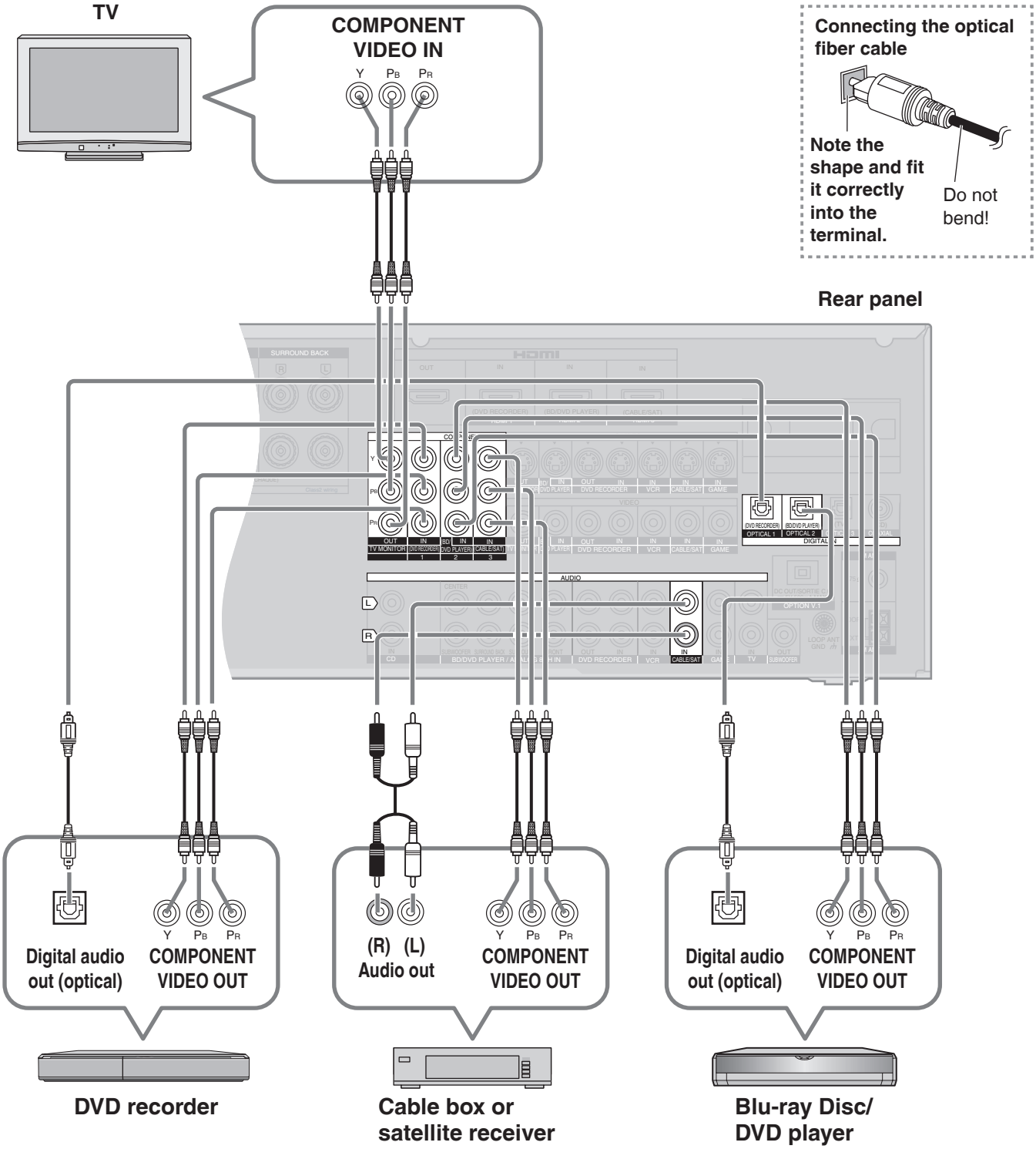
Connecting cables to component and audio terminals

The component video terminals can produce more accurate colors than the S video terminals (➔ page 18).

Connection cable

Video cable	Audio cable	
Video connection cable (not included)	**Optical fiber cable** (not included)	**Stereo connection cable** (not included)

To enjoy TV with surround sound, make connection Ⓐ or Ⓑ instructed on page 16 according to your equipment.



Component video terminals

The component video terminals (color-difference video terminals) output red (P_R), blue (P_B), and luminance (Y) signals separately. The terminals reproduce colors with greater accuracy for this reason.

Note

- The input video signal can be sent out through an output terminal of the same type only.
- You can change the settings for the digital input terminal and Component Video 3 terminal according to the equipment to connect (➔ page 39).

Connections

Other connections

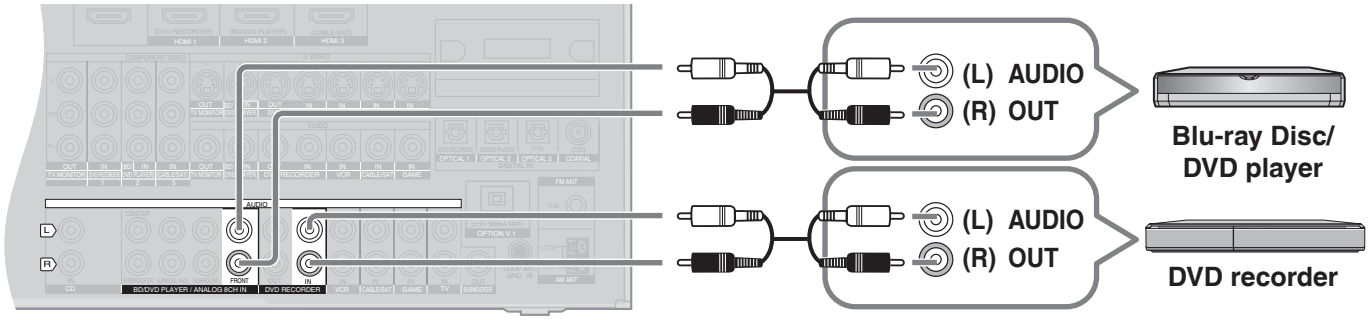
Connection cable

Video cable	
Video connection cable (not included)	**S VIDEO connection cable** (not included)
Audio cable	
Coaxial cable (not included)	**Stereo connection cable** (not included) White (L) Red (R)

To enjoy analog sounds

Make analog connections according to your equipment and preference. See pages 17, 18 and 19 for video connections.

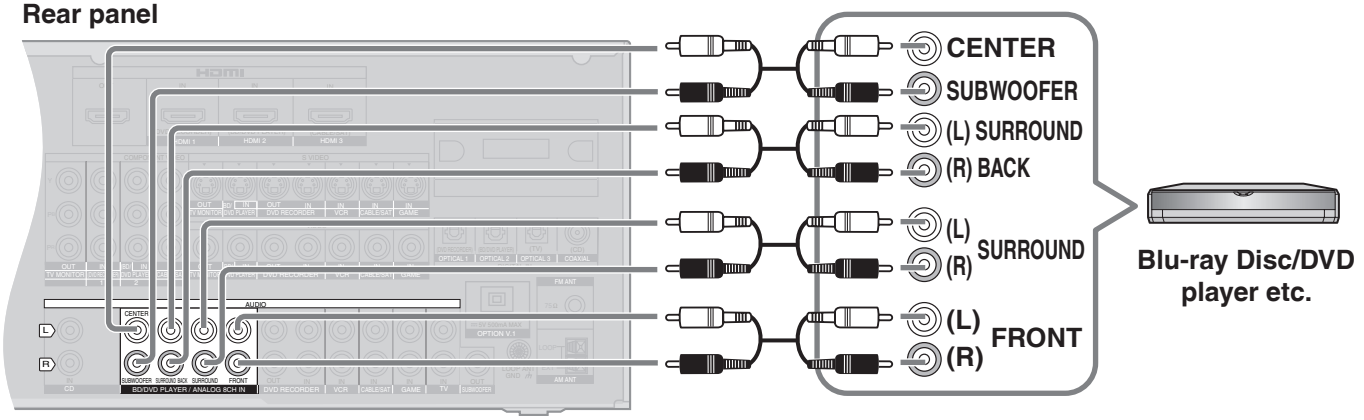
Rear panel



To enjoy high-quality analog sounds (Analog 8-channel connections)

See pages 17, 18 and 19 for video connections.

Rear panel



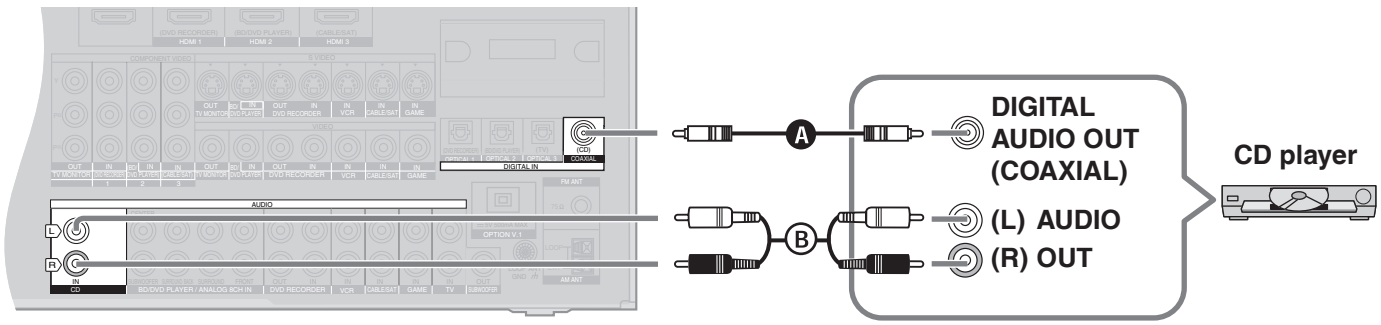
Note

- See page 27 for playback instructions.
- When you make HDMI connections (➔ pages 12, 13 and 16), this connection is not necessary.

To connect the unit to a CD player

Make either digital audio (COAXIAL) output connections (Ⓐ) or analog audio output connections (Ⓑ) according to your equipment and preference.

Rear panel



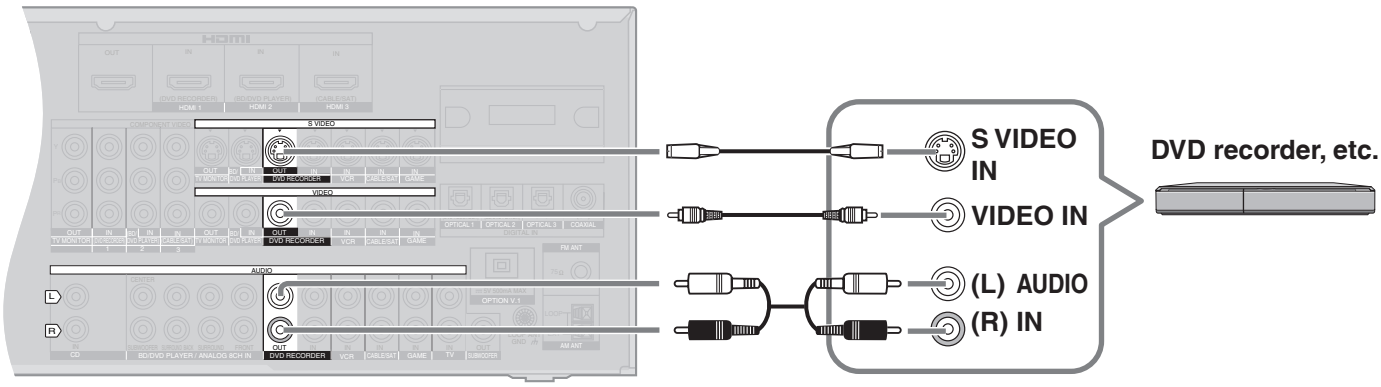
Note

- You can change the digital input terminal setting according to the equipment to connect (➔ page 39).

To connect the unit for audio or picture recording

You can record audio or pictures to the equipment connected to DVD recorder output terminal (AUDIO, VIDEO, S VIDEO).
See page 41 for more details.

Rear panel



Note

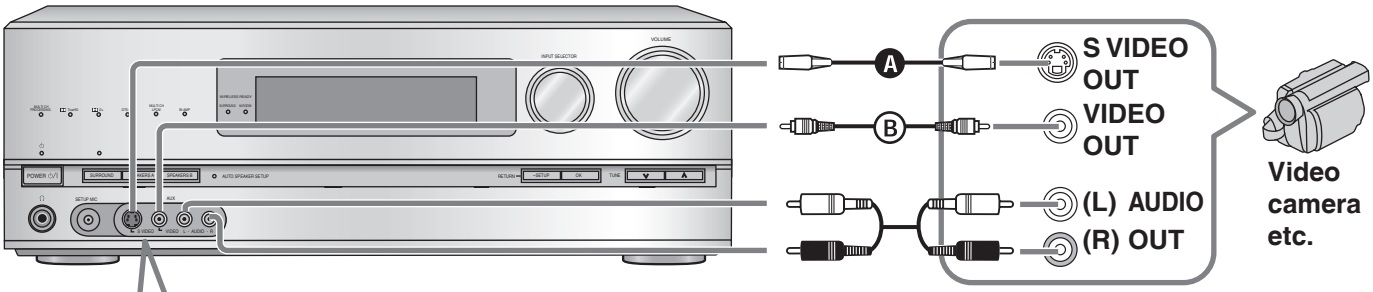
• Connect the recording unit and source unit using the same cable.

To connect the unit to a video camera etc.

These terminals are convenient for equipment you want to connect only temporarily.

Note

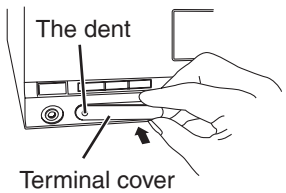
• Use a cable, Ⓐ or Ⓑ that belongs to the same type as the video cable you used for connecting the unit to your TV.



How to attach or remove the front terminal cover

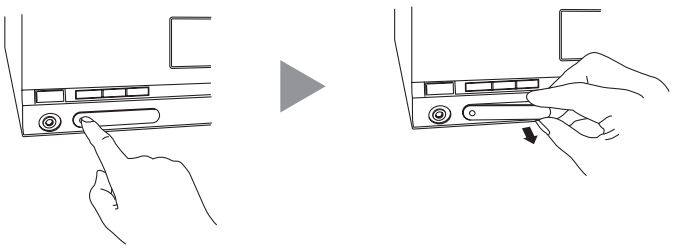
• Attaching the cover is recommended to protect terminals when not in use.

■ **To attach**



Place the dent on the left to insert.

■ **To remove**



Press the dent.

Hold the protrusion to remove.

Connections

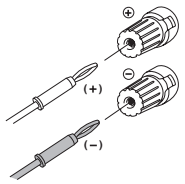
Connecting other speakers

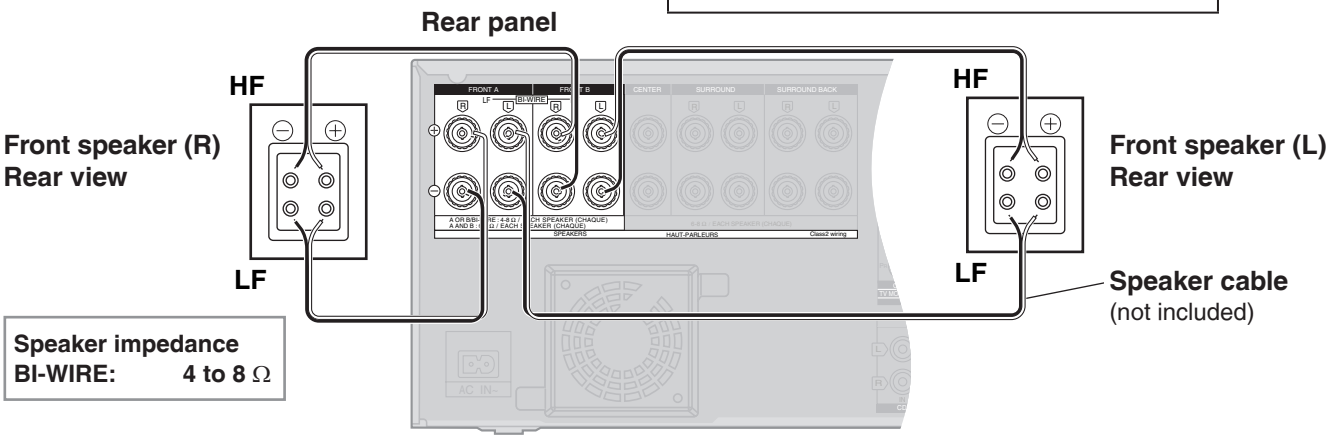
To connect bi-wire speakers

Make sure to select "***YES*** " in "Making bi-wire setting" (➔ page 38) when you connect the unit to bi-wire speakers. The speakers do not produce adequate sounds unless you make this setting.

If using 4-mm plug

Turn speaker terminals clockwise and tighten them before inserting plugs into their holes.



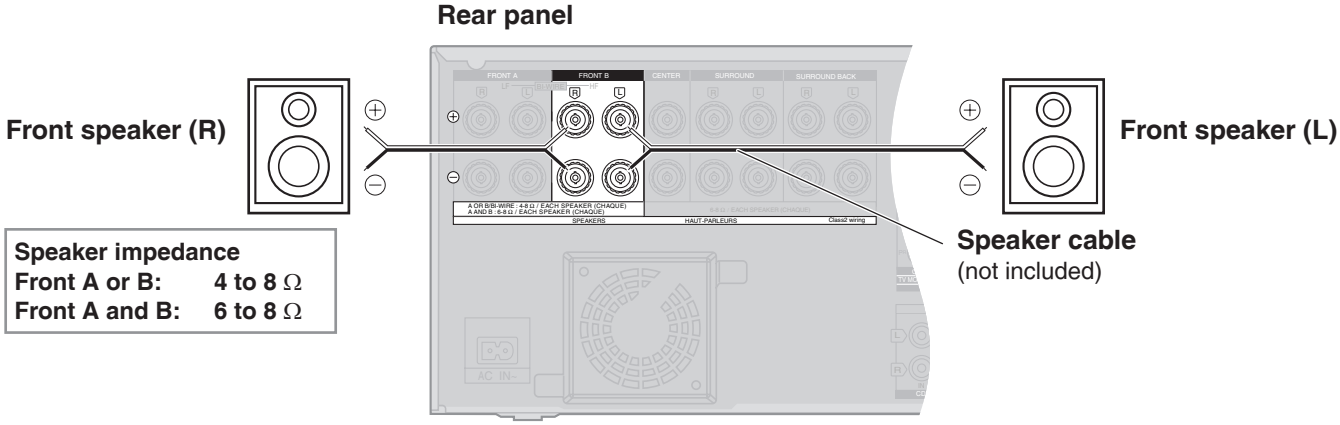


Note

- Make sure to connect speakers' HF terminals with the unit's FRONT B terminals, and speakers' LF terminals with the unit's FRONT A terminals.
- Different amps for high frequency and low frequency signals produce BI-AMP stereo sounds that are clearer and higher in audio quality when you play on 2 channels sources containing analog audio and 2-channel PCM signals (➔ page 51).
- When connecting speakers with the impedance of 4 Ω, make sure to set "***4 OHMS*** " in "Setting the speaker impedance" on page 38.
- See "Notes on "To connect bi-wire speakers"" on page 50 for more details.

To connect a second pair of front speakers (SPEAKERS B)

Make the following connections when you wish to install a second pair of speakers in another room and enjoy music there.



Note

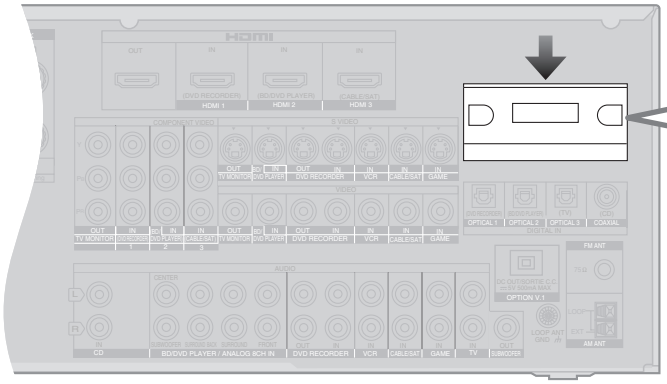
- When connecting speakers with the impedance of 4 Ω, make sure to set "***4 OHMS*** " in "Setting the speaker impedance" on page 38.
- See "Notes on "SPEAKERS B"" on page 51 for more details.

- Turn off all equipment before making any connections.
- Peripheral equipment sold separately unless otherwise indicated.
- To connect equipment, refer to the appropriate operating instructions.

To enjoy wireless audio with SH-FX67

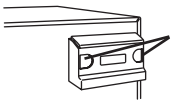
You can connect left and right surround speakers wirelessly by using Panasonic SH-FX67 (a set consisted of a digital transmitter and a wireless system sold separately) with the unit (➔ page 27).
To use these options, insert the digital transmitter into the unit's digital transmitter terminal and connect surround speakers to SH-FX67's wireless system. See SH-FX67's operating instructions for details.

Rear panel



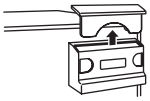
How to insert the digital transmitter

① Press the dents on both sides with force.

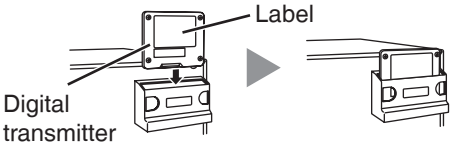


- Use care because the cover may pop out.

② Remove the cover.



③ Insert firmly with the label side facing front.



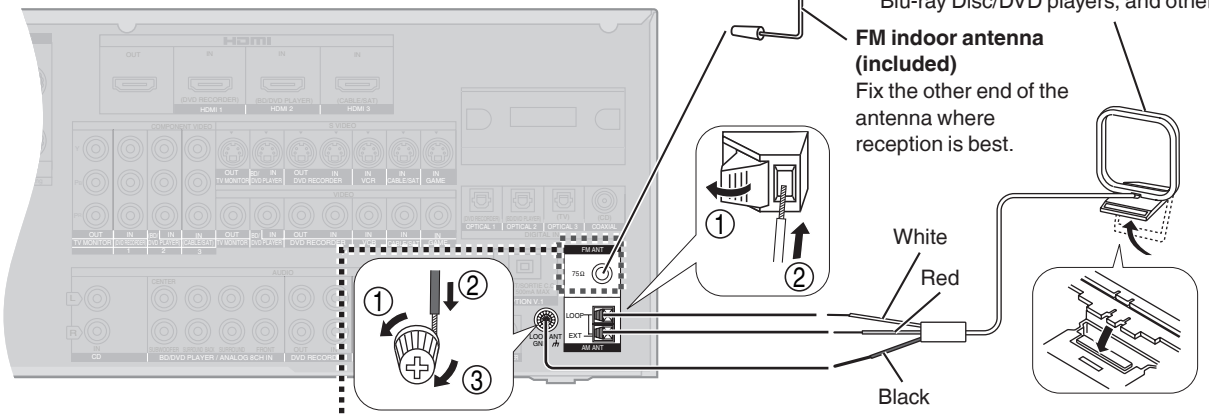
Note

- You can enjoy wireless speakers in another room (➔ page 27) (MULTI ROOM). To use multi room function, make sure to select "***MULTI ROOM***" in "Setting wireless speakers" (➔ page 39).
- When "***MULTI ROOM***" is set, the surround speakers cannot be used wirelessly.
  When the surround speakers are used wirelessly, you cannot set "***MULTI ROOM***".
- By using 2 sets of SH-FX67, you can enjoy 7.1 channel playback, making the surround speakers and surround back speakers wireless. In that case, make ID number setting (➔ page 27).
- Setting of the surround selector on SH-FX67 is necessary for 7.1 channel playback. See SH-FX67's operating instructions for more information.

Connecting antennas

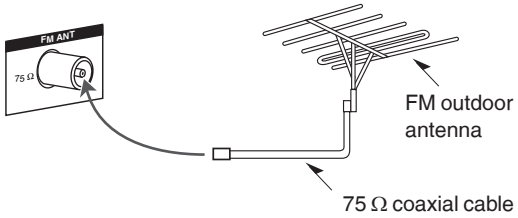
When finished connecting antennas, tune the radio station once (➔ pages 48 and 49) and fix the antennas where reception is best.

Rear panel



FM outdoor antenna (not included)

- Disconnect the FM indoor antenna.
- The antenna should be installed by a competent technician.



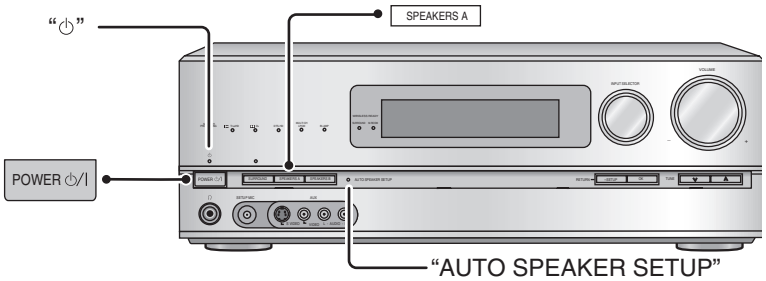
Auto speaker setup using the setup microphone

Using the supplied setup microphone, you can measure such items as distance from the seating area, polarity and size and make adjustments for connected speakers.

Keep quiet during the auto speaker setup. Conversational voice, air-conditioning noise and small sounds made by winds may cause an error or produce an incorrect setting. Speakers output loud test signals during the auto speaker setup. Make sure to keep little children out of the room.

Preparation

- **Mute the TV volume before starting the auto speaker setup.**
- **When the subwoofer is connected, make sure it is turned on. (There are subwoofer models that turn off automatically.)**
- **Set the subwoofer volume to the normal listening level.**
- **Select "*YES*" in "Making bi-wire setting" (→ page 38) when you connect the unit to bi-wire speakers.**



1 To turn the unit on

Press [⏻].

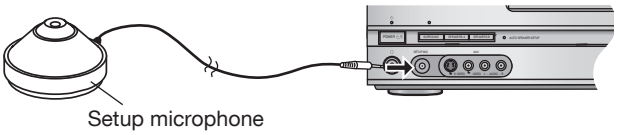
The standby indicator "⏻" goes off when you turn the unit on.

- You can also turn this unit on by pressing [POWER ⏻/I] on the unit.

2 Confirm "A" is displayed on the unit's display.

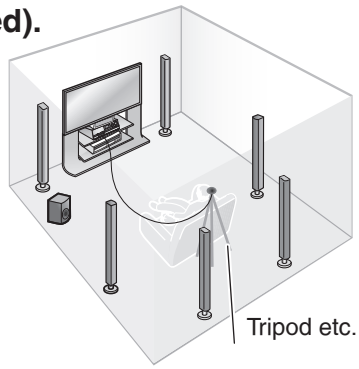
- If " A " is not displayed, press [SPEAKERS A].

3 Connect the setup microphone (included).



4 Place the setup microphone (included).

- Place the setup microphone on a flat surface to stabilize it.
  Examples: A level bench sharing the height with the seating area, a top section of a sofa etc.
- Set the microphone at seated ear height.
- Use a tripod (for camera and other products) for best results.



5 To start the setup

Press and hold [–AUTO, TEST] (on the remote control) for 2 seconds.

- The "AUTO SPEAKER SETUP" indicator flashes.
- The unit cancels the auto speaker setup halfway through when you give a different operational instruction before the setup finishes.
- To cancel the setup halfway, press [–AUTO, TEST].

6 To finish the setup

- When all auto settings are made, "***COMPLETE***" appears and the "AUTO SPEAKER SETUP" indicator lights on.
- You can perform other operations after "***COMPLETE***" is displayed. The unit keeps the settings even if you move straight on to another operation.

Press [–AUTO, TEST] (on the remote control).

- Unplug the setup microphone when the setup is finished.

With the setup microphone, the unit automatically sets the following.

DISTANCE : The unit measures the distance between each speaker and the seating area and corrects the sound delay in the seating area. The maximum speaker distance for correcting the delay is 15 meters (45 feet).

POLARITY : The unit checks the polarity of each speaker and, when the polarity is wrong, corrects it.
Select "***CHECK NO***" in "Setting the unit against automatic polarity adjustment" (➔ page 38) before starting the auto speaker setup when you do not want the unit to adjust polarity automatically.

SIZE / LEVEL / FREQUENCY : The unit measures acoustic characteristics of the room including speaker characteristics (size, speaker connection status, output level and lowpass filter settings) and adjusts them.

Note

- The setup microphone is sensitive to heat. Keep it away from direct sunlight and avoid placing it on top of the unit.
- These settings remain effective after the unit goes off.
- The setup microphone jack is for use with the setup microphone only. Do not connect other microphones.
- The volume may reach an extremely high level when you repeat the auto speaker setup.
  When the auto speaker setup is finished, check the volume before starting playback.
- Setting the connection status and adjusting the level are the only available adjustment for the subwoofer through the auto speaker setup.

Such factors as speaker types, room conditions and speaker placement may cause the unit to set speaker size, lowpass filter frequency and other items differently for the same type of speakers or produce settings that differ from the actual characteristics of respective speakers.
When sound from speakers seems odd, check the following settings. When you find undesirable settings, correct them manually.
- See "Setting speakers and their sizes", "Setting distances" and "Setting the lowpass filter" (➔ pages 37 and 38).

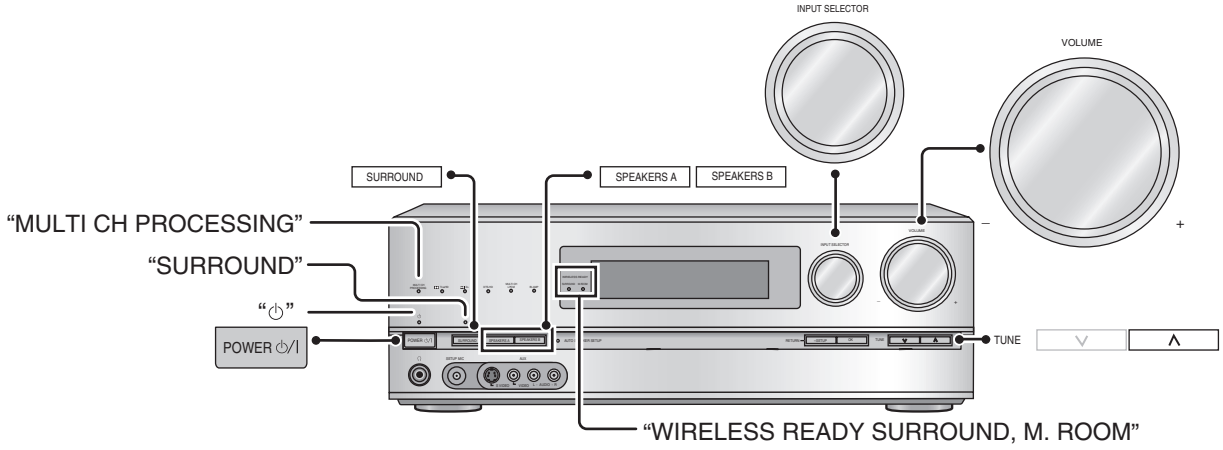
Error messages

When one of the following error messages appears, press [–AUTO, TEST] to cancel and perform the auto speaker setup again.

Message	Cause	Countermeasure
CONNECT MIC	• The setup microphone is not connected.	• Connect the setup microphone properly.
NO MIC	• The setup microphone comes off during the auto speaker setup and correct measurement cannot be achieved.	• Check to make sure the microphone is connected properly.
NOISY	• Loud noise is preventing measurement.	• Perform the auto speaker setup again when the room is quiet. • Turn off an air-conditioner and other equipment that are producing noise.
MEASURING ERROR	• A speaker is too far. • An error occurred from an unknown cause.	• Check speaker locations. • Perform the setup again.
CHECK CONNECTION TO SBL SPEAKER	• The right surround back speaker was detected, but the left surround back speaker was not detected.	• Connect to the left surround back speaker terminal when you connect only one surround back speaker. • Check the left surround back speaker's connections.
NEED TO CONNECT LS/RS SPEAKERS	• Surround back speakers were detected, but left and right surround speakers were not detected.	• Connect surround speakers as well when you connect surround back speakers.
CHECK CONNECTION TO LS SPEAKER	• The unit cannot detect the surround speaker (left).	• Check connections.
CHECK CONNECTION TO RS SPEAKER	• The unit cannot detect the surround speaker (right).	• Check connections.
CHECK CONNECTION TO L SPEAKER	• The unit cannot detect the front speaker (left).	• Check connections.
CHECK CONNECTION TO R SPEAKER	• The unit cannot detect the front speaker (right).	• Check connections.
LOW SIGNAL	• Test signals from the speakers are too weak to allow accurate measurement with the microphone.	• Change the microphone location (height, direction etc.). • Check if there is any obstacle near a speaker that is blocking the test signals. • Set the subwoofer volume to the normal listening level.

☞ **When the "AUTO SPEAKER SETUP" indicator is off after the auto speaker setup:**
Auto speaker settings have been cancelled as a result of various setting changes.

Enjoying the Home Theater



Basic playback

1 **To turn the unit on**

Press [⏻].

- The standby indicator "⏻" goes off when you turn the unit on.
- You can also turn this unit on by pressing [POWER ⏻/I] on the unit.

2 **Confirm "A" is displayed on the unit's display.**

- Check the "SURROUND" indicator is lighting up. If not, press [SURROUND] on the unit to set surround playback (➔ pages 13 and 29).

3 **To switch input sources**

Press [INPUT SELECTOR] repeatedy.

FM → ***AM*** → ***CD*** → ***TV*** → ***CABLE/SAT*** → ***BD/DVD P.*** (Blu-ray Disc/DVD player)
↑ ↓
GAME ← ***OPTION P.*** ← ***AUX*** ← ***VCR*** ← ***DVD R.*** (DVD recorder)

- You can also switch input sources using [INPUT SELECTOR] on the unit.

☞ **To play a DVD recorder with built-in VCR**
(If the equipment has the output terminal specifically for DVD/VHS.)
(➔ page 17)
- To play a DVD: select "***DVD R.*** ".
- To play a video cassette: select "***VCR*** ".

4 **Play the selected input source.**

5 **To adjust the volume**

Press [VOL ◢ +, –].

Volume range: ***– – dB*** (minimum), ***–79dB*** to ***0dB*** (maximum)

- You can also adjust the volume using [VOLUME +, –] on the unit.
- You can change dB value display to numeric value display (➔ page 40).

■ To finish the Home Theater

Be sure to reduce the volume and press [⏻] to turn the unit to standby.

Note

- See page 50 for digital signals that can be played on this unit.
- Images recorded with x.v.Color or Deep Color (➔ page 52) are also supported.
- If " A " is not displayed in step **2**, press [SPEAKERS A].
- Press [SPEAKERS A] or [SPEAKERS B] to switch " A " and " B " on when bi-wire speakers are connected (➔ page 22).

Using surround speakers wirelessly with SH-FX67

Preparation

- Insert the digital transmitter into the unit's digital transmitter terminal and connect surround speakers to SH-FX67's wireless system (➔ page 23).
  By using 2 sets of SH-FX67, you can enjoy 7.1 channel playback, making the surround speakers and surround back speakers wireless.
- See SH-FX67's operating instructions for details.
- Make sure to turn the unit off before inserting or removing the digital transmitter.
- See the note on page 50.

The "WIRELESS READY SURROUND" indicator stays on while the digital transmitter is connected.
The indicator may stay off or flash in the following cases.
The indicator stays off:
- When the "MULTI CH PROCESSING" indicator is off
- When using "***MULTI ROOM*** " (➔ below)

The indicator flashes:
- When radio waves are interrupted (when SH-FX67 is turned off)

To enjoy 7.1 channel playback using 2 sets of SH-FX67

You need to set ID number for the second SH-FX67.

Preparation

- Turn on either of the 2 sets.
- Insert the digital transmitter supplied with the one which is OFF to this unit. (➔ page 23)

1. Turn the unit on.
- "WIRELESS READY SURROUND" indicator flashes.

2. Press [FM/AM] on the remote control.

3. Press [3] on the remote control while pressing [TUNE ∧] on the unit.
- ID set mode starts.

4. Press ID set button on the SH-FX67 which is ON while "*P* " is displayed on the display panel.

5. Press [3] on the remote control while pressing [TUNE ∧] on the unit.
- "WIRELESS READY SURROUND" indicator lights up.
- The setting is completed.

Note

- The digital transmitter supplied with SH-FX67 which is ON is not used.
- We recommend you keep the unused digital transmitter in a safe place.

When you use wireless speakers in another room (MULTI ROOM)

- Be sure to set "***MULTI ROOM*** " in "Setting wireless speakers" (➔ page 39).
- The audio signals come out of front and center in 2CH MIX (2-channel mix)
- When the digital transmitter is inserted and "***MULTI ROOM*** " is set , the "WIRELESS READY M. ROOM" indicator lights on. However, the indicator may turn off in the following cases.
  - When radio waves are interrupted (when SH-FX67 is turned off)
  - When the surround speakers are in use of wireless (➔ above).

Using SPEAKERS B

Sound is output from the speakers connected to the FRONT B terminals on this unit.

Press [SPEAKERS B] on the unit to switch "B" on.

☞ **To turn off speakers connected to the FRONT A terminals**
Switch "A" on the display off by pressing [SPEAKERS A].

- See the note on page 51.

Playback when making analog 8-channel connections

Preparation

- Make analog 8-channel connections (➔ page 20).
- Select "SPEAKERS A" (➔ page 26).
- Switch the input source to "***BD/DVD P.*** " (➔ page 26).

Press and hold [BD/DVD PLAYER, –ANALOG 8CH] until "*BD P. 8CH* " is displayed.
- To cancel, press and hold until "***BD/DVD P.*** " is displayed.
- See the note on page 51.

Enjoying only with TV speaker

- When image equipment such as TV and recorder is connected to this unit via HDMI (➔ pages 12, 13 and 16), images/audio signals from the recorder go through this unit and are transmitted to TV even if this unit is turned off (Standby through function). This is convenient to enjoy only with TV speaker.
- Images recorded with x.v.Color or Deep Color (➔ page 52) are also supported.

Enjoying 7.1-channel virtual surround playback

Even if the surround back speakers are not connected, you can enjoy 7.1-channel virtual surround playback when playing more than 6-channel audio signals.

Note

- When you place the surround speakers at the back of the listening-viewing position, set to "***REAR SPK*** " in "Setting the placement positions for surround speakers" (➔ page 39).

Listening to surround sound

You can add surround effects or create surround sound from 2-channel stereo sources.

Dolby Pro Logic IIx

Dolby Pro Logic IIx offers you surround playback of 2-channel stereo sources.
The technology enables you to play 5.1-channel Dolby Digital and DTS sources on 7.1 channels (when two surround back speakers are connected to the unit) and on 6.1 channels (when only one surround back speaker is connected).
The technology makes surround back channels available for the playback of Dolby Digital Surround EX sources.

Press [PL IIx].

Press [PL IIx], and then press [▲] [▼] to change the mode.
MOVIE ↔ ***MUSIC*** ↔ ***EX*** or ***GAME***

☞ **To cancel: Press [SURROUND, OFF].**

NEO:6

NEO:6 offers you surround playback of 2-channel stereo sources.
The technology enables you to play 5.1-channel Dolby Digital and DTS sources on 6.1 channels.

Press [NEO:6].

Press [NEO:6], and then press [▲] [▼] to change the mode.
CINEMA ↔ ***MUSIC***

☞ **To cancel: Press [SURROUND, OFF].**

SFC (Sound Field Control)

You can add presence and spread to surround sound according to your preference.

■ MUSIC
Use this mode when playing music.

Press [SFC MUSIC].

Press [SFC MUSIC] again to change the mode.
LIVE → ***POP/ROCK*** → ***VOCAL*** → ***JAZZ*** → ***DANCE*** → ***PARTY***

You can also select each of the following modes by pressing [SFC MUSIC], and [▲] [▼] in succession.

☞ **To cancel: Press [SURROUND, OFF].**

■ MOVIE
Use this mode when playing movies.

Press [SFC MOVIE].

Press [SFC MOVIE] again to change the mode.
NEWS → ***ACTION*** → ***STADIUM*** → ***MUSICAL*** → ***GAME***

You can also select each of the following modes by pressing [SFC MOVIE], and [▲] [▼] in succession.

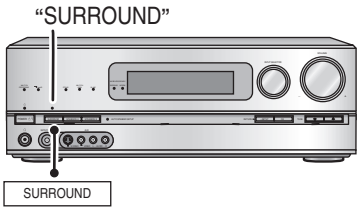
☞ **To cancel: Press [SURROUND, OFF].**

Note

- Surround effects may be unavailable depending on sources.
- These settings remain effective after the unit goes off.
- The unit makes output through speakers according to the number of channels recorded in sources when you switch Dolby Pro Logic IIx, NEO:6 or SFC off.
  Example: The unit makes output through front speakers, the center speaker, surround speakers, and the subwoofer when you play 5.1-channel sources. Surround back speakers go silent.

☞ **Operating on the unit**

Press [SURROUND].



- The "SURROUND" indicator lights on after the setting.
- Surround playback switches on/off each time you press the button.
- When surround playback is activated by pressing [SURROUND], the mode is set to the previously selected sound field setting. Use remote control to change the setting (➔ page 28).
- The factory setting is "***MOVIE*** " of Dolby Pro Logic IIx.

Note

- The unit memorizes whether [SURROUND] has been pressed on or off for each input source.
- Not available when "A" does not light on (➔ page 26).

Sound field

Dolby Pro Logic IIx

- You can select the most suitable mode according to the input signals.
- You can make more detailed settings in "***MUSIC*** " mode (➔ page 30).

NEO:6

- You can select the most suitable mode according to the input signals.
- The subwoofer goes silent when you use NEO:6 on 2-channel stereo sources as long as all speakers have been set as "***LARGE*** " in "Setting speakers and their sizes" (➔ page 37).
- You can make more detailed settings in "***MUSIC*** " mode (➔ page 30).

SFC (Sound Field Control)

- SFC cannot be selected when you connect no surround speaker to the unit or you set the surround speaker as unconnected.
- Sound may be distorted when the selected input source and SFC mode do not match.
  In such cases, select another mode.

Dolby Pro Logic IIx	
"***MOVIE*** "	This mode produces good effects when you play commercial film titles in the Dolby Surround format. Sounds assigned to surround back channels become stereo in playback when you connect two surround back speakers to the unit.
"***MUSIC*** "	Use this mode when playing music.
"***EX*** " **(Dolby Digital EX)**	This mode produces good effects when you play commercial film titles recorded in the Dolby Digital Surround EX format. This mode is effective on sources containing surround channels only. Sounds assigned to surround back channels become monaural in playback when you connect two surround back speakers to the unit. "**DIGITAL EX**" or "**EX**" replaces "**PL IIx** " on the display when you connect one surround back speaker.
"***GAME*** "	You can play games with dynamic sounds in this mode. This mode is effective on 2-channel stereo sources. The effect of this mode becomes same as "***MOVIE*** " when surround and surround back speakers are unconnected (➔ pages 10, 11, 24 and 25) or when you set them as absent in "Setting speakers and their sizes" (➔ page 37).
NEO:6	
"***CINEMA*** "	Use this mode when playing movies.
"***MUSIC*** "	Use this mode when playing music.
SFC (Sound Field Control)	
"***LIVE*** "	Imparts the reflection and spread of a large concert hall.
"***POP/ROCK*** "	Best suited for dynamic sound such as pop and rock music.
"***VOCAL*** "	Best suited to enhance vocals.
"***JAZZ*** "	Enjoy sound reflections as if you were in a small Jazz club.
"***DANCE*** "	Enjoy a dance hall like audio effect.
"***PARTY*** "	This mode gives you a stereo impression wherever your listening position may be. Music played in the mode sounds like background music at parties.
"***NEWS*** "	Best suited to emphasize the human voice.
"***ACTION*** "	Best suited for action movies with impact.
"***STADIUM*** "	Enjoy a feeling like being at a live sporting event.
"***MUSICAL*** "	Enjoy a feeling like being at a live musical performance.
"***GAME*** "	Enjoy games with greater audio impact.

Remote controlling sound effects

See pages 28 and 29 for information about each mode.

Adjusting Dolby Pro Logic IIx's "*MUSIC* " mode

You can use the following modes when the input source is 2-channel stereo.

■ Dimension Control

You can make up for differences in the output level of the front and surround speakers.

1. Press [DD PLIIx] to activate Dolby Pro Logic IIx.

2. Press [DD PLIIx], next press [▲][▼] to select "*MUSIC* ", and press [OK] to confirm.

3. Press [▲][▼] to select "*DIMEN* ", and press [OK] to confirm.

4. Press [▲][▼] for adjustment, and press [OK] to confirm.

Adjustment range: ***-3*** (More surround sound) to ***+3*** (More front sound)
Factory setting: ***0***

■ Center Width Control

In this mode, you can play music more naturally by adjusting sounds assigned to front and center speakers as a whole.

1. Press [DD PLIIx] to activate Dolby Pro Logic IIx.

2. Press [DD PLIIx], next press [▲][▼] to select "*MUSIC* ", and press [OK] to confirm.

3. Press [▲][▼] to select "*C-WIDTH* ", and press [OK] to confirm.

4. Press [▲][▼] for adjustment, and press [OK] to confirm.

Adjustment range: ***0*** (Center becomes clearer) to ***7*** (Center becomes wider)
Factory setting: ***3***

Adjusting NEO:6's "*MUSIC* " mode

You can use the following mode when the input source is 2-channel stereo.

■ Center Image Control

In this mode, you can play music more naturally by adjusting sounds assigned to front and center speakers as a whole.

1. Press [NEO:6] to activate NEO:6.

2. Press [NEO:6], next press [▲][▼] to select "*MUSIC* ", and press [OK] to confirm.

3. Press [▲][▼] to select "*C-IMAGE* ", and press [OK] to confirm.

4. Press [▲][▼] for adjustment, and press [OK] to confirm.

Adjustment range: ***0*** (Center becomes clearer) to ***5*** (Center becomes wider)
Factory setting: ***2***

Convenient functions

Adjusting speaker volumes

Adjust speaker output to balance front speaker sounds with those from each of the other speakers in the seating area.

Preparation

- Press [SPEAKERS A] on the unit to switch "A" on.
- Press [SPEAKERS A] or [SPEAKERS B] to switch "A B" on when bi-wire speakers are connected.
  (If you select "SPEAKERS B" only, the test signal will not be output.)

1. Press [INPUT SELECTOR] to select an input source which is not connected.

- Or stop the playback of connected equipment.

2. Press [VOL +, –] to adjust the volume range between –30dB and –35dB.

3. Press [–AUTO, TEST].

- Speakers are displayed in the following order.

L → ***C*** → ***R*** → ***RS*** → ***SBR*** → ***SBL*** → ***LS*** → ***SUBW*** or

L → ***C*** → ***R*** → ***RS*** → ***SB*** → ***LS*** → ***SUBW*** (If you connect one surround back speaker)

- Connected speakers output the test signal.

How speakers are displayed

L : Front left, ***C*** : Center, ***R*** : Front right , ***RS*** : Surround right, ***SBR*** : Surround back right, ***SBL*** : Surround back left, ***SB*** : Surround back (If you connect one surround back speaker), ***LS*** : Surround left, ***SUBW*** : Subwoofer

4. Press [▲] [▼] to adjust the speaker volume when the test signal is being output from the speaker to adjust.

- To shift the test signal output to next speaker, press [▶].

Adjustment range: ***–20 dB*** to ***+10 dB***
Factory setting: ***0 dB***
SUBW only:
MIN (minimum), ***1*** to ***29***, ***MAX*** (maximum)
Factory setting: ***20***

5. Press [–AUTO, TEST] to finish.

6. Lower the volume to the normal listening level using [VOL +, –].

Note

- The front speakers cannot be adjusted with this operation. To adjust the front speaker volumes, press [VOL +, –].
- To adjust the volume balance of left and right front speakers, see "Balancing front speaker volume" (➔ page 35).

Silencing speakers temporarily

Press [MUTING].

- "***MUTING*** " flashes while muting is activated.
- Press the button again to cancel the operation.
- Muting is cancelled when you turn the unit off or adjust the volume.

Displaying the current status

1. Press [INPUT SELECTOR].

2. Press [DISPLAY].

- The sound volume, SFC setting and Digital input (terminal name/format) scroll in turn across the display.
- When the unit is receiving a dual audio signal, the reception status is displayed (➔ page 35).
- Preset channel number is also displayed when the preset channel is tuned (➔ page 48).
- When you press [DISPLAY] halfway in this process, the next item to the current display appears.

Using the VIERA Link "HDAVI Control™"

What is VIERA Link "HDAVI Control" ?
VIERA Link™ is a new name for EZ Sync™.
VIERA Link "HDAVI Control" is a convenient function that offers linked operations of this unit, and a Panasonic TV (VIERA) or DVD recorder (DIGA) under "HDAVI Control". You can use this function by connecting the equipment with the HDMI cable. See the operating instructions for connected equipment for operational details.

- VIERA Link "HDAVI Control", based on the control functions provided by HDMI which is an industry standard known as HDMI CEC (Consumer Electronics Control), is a unique function that we have developed and added. As such, its operation with other manufacturers' equipment that supports HDMI CEC cannot be guaranteed.
- **This unit supports "HDAVI Control 3" function.**
  "HDAVI Control 3" is the newest standard (current as of December, 2007) for Panasonic's HDAVI Control compatible equipment. This standard is compatible with Panasonic's conventional HDAVI equipment.
- Please refer to individual manuals for other manufacturers' equipment supporting VIERA Link function.

You can enjoy the followings by using the remote control of TV (VIERA)

1 **You can select "Speaker Selection" ("Home Cinema" or "TV").**
Home Cinema: This unit will be automatically turned on if it is in standby mode and the sound is from the speakers connected to this unit. You can also adjust the volume level by using the volume control buttons.
TV: TV speakers are active.

2 **When you switch off the TV (VIERA), this unit automatically turns off.**
(This operation is unavailable when you set the input source as "***FM*** ", "***AM*** ", "***CD*** " or "***OPTION P.*** " on this unit.)
When VIERA Link "HDAVI Control" compatible recorder (DIGA) is connected with HDMI cable, the recorder (DIGA) also turns off.

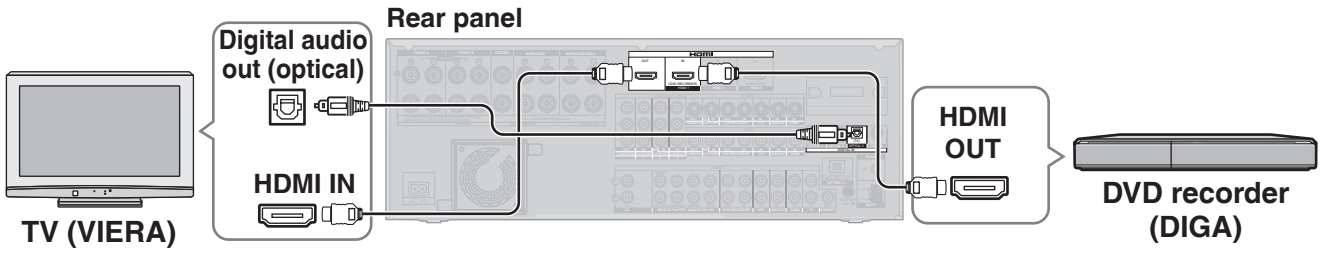
Note

- When you operate the TV (VIERA) such as selecting a channel this unit's input selector will automatically switch to "***TV*** ".
- When you operate DVD recorder (DIGA), this unit's input selector will automatically switch to "***DVD R.***".
- To operate other functions, use this unit's remote control.

Connection

Connect your home theater equipment (VIERA Link "HDAVI Control" compatible VIERA television and DIGA DVD recorder) with an HDMI cable.

- It is recommended that you use Panasonic's HDMI cable.
  Recommended part number: RP-CDHG10 (1.0 m/3.3 ft.), RP-CDHG15 (1.5 m/4.9 ft.), RP-CDHG20 (2.0 m/6.6 ft.), RP-CDHG30 (3.0 m/9.8 ft.), RP-CDHG50 (5.0 m/16.4 ft.), etc.
- This unit incorporates HDMI™ (V.1.3 with Deep Color) technology.
- Non-HDMI-compliant cables cannot be utilized.
- Please use High Speed HDMI Cables that have the HDMI logo (as shown on the cover).
- When outputting 1080p signal, please use the HDMI cables 5.0 meters (16.4 feet) or less.
- You cannot enjoy TV sounds on this unit with only an HDMI cable. Connect TV to this unit with the optical fiber cable to enjoy TV sound.



Setup

1 **Switch on all your equipment.**
2 **Switch on your television (VIERA).**
3 **Switch television (VIERA) input to HDMI terminal that this unit is connected to.**
4 **Ensure that this unit's input is set to "*DVD R.*" in order to view pictures from DVD recorder (DIGA) correctly.**

Note

This setup should be done each time when the following conditions occur:
- for the first time
- when adding or reconnecting equipment
- when changing setup

Enjoying the Home Theater through one-touch operations

Aim the remote control at the DVD recorder (DIGA) and press [ONE TOUCH PLAY].

The following operations are automatically performed when you just press [ONE TOUCH PLAY].

1. The DVD recorder goes on and starts playing back the recorded media in the selected drive (e.g. HDD, DVD).
2. The TV goes on and the TV input changes.
3. The speakers produce sounds after the unit is turned on and the input source for the unit switches to "***DVD R.***".

☞ To adjust the volume: Press [VOL ◢ +, –].
You can also adjust the volume on your TV (VIERA)'s remote control.
(A message informing the action appears on your TV while you adjust the volume.)

When not using this function

Set VIERA Link "HDAVI Control" to "***OFF***" (➔ page 40).

Using the sound menu

Note

- If you press buttons other than [▲][▼][◀][▶], [OK] and [RETURN] while setting the sound menu, the sound menu operation will stop. To continue the operation, see pages 34 and 35.

■ Sound menu items

The display shown below indicates the sound menu items. Refer to each section for details.

"CH LEVEL" ↔ *"BASS"* ↔ *"TREBLE"* ↔ *"BALANCE"*
(➔ below) (➔ below) (➔ below) (➔ page 35)

"DUAL" ↔ *"DRCOMP"* ↔ *"W. S."* ↔ *"EXIT"*
(➔ page 35) (➔ page 35) (➔ page 35)

Adjusting the speaker level

You can adjust the speaker levels of the center speaker, surround speakers, surround back speakers and the subwoofer respectively.

1. Press [SOUND MENU] to enter the sound menu.

2. Press [▲][▼] to select "*CH LEVEL* ", and press [OK] to confirm.

3. Press [▲][▼] to select a speaker to adjust, and press [OK] to confirm.

How speakers are displayed
C : Center, ***LS*** : Surround left, ***RS*** : Surround right,
SBL : Surround back left, ***SBR*** : Surround back right,
SB : Surround back (If you connect one surround back speaker), ***SUBW*** : Subwoofer

4. Press [▲][▼] to adjust the level, and press [OK] to confirm.

Adjustment range:
C, ***LS***, ***RS***, ***SBL***, ***SBR***, ***SB*** (If you connect one surround back speaker);
–20 dB to ***+10*** dB
SUBW; ***– – –***, ***MIN***, ***1*** to ***29***, ***MAX***
Factory setting:
C, ***LS***, ***RS, SBL, SBR, SB*** (If you connect one surround back speaker); ***0*** dB
SUBW; ***20***

5. Press [SOUND MENU] to select "*EXIT* ", and press [OK] to finish the setting.

Press [RETURN] to return to the previous display or to cancel the setup in the halfway.

Note

- Select "***– – –*** " to stop output from the subwoofer.
- Sound can be distorted if you raise the volume while the subwoofer level is high. Reduce the subwoofer level if this occurs.
- When "MULTI CH PROCESSING" indicator is off, you cannot adjust speakers other than the subwoofer.

Adjusting the bass

You can adjust the bass through this operation.

1. Press [SOUND MENU] to enter the sound menu.

2. Press [▲][▼] to select "*BASS* ", and press [OK] to confirm.

3. Press [▲][▼] for adjustment, and press [OK] to confirm.

Adjustment range: ***-10*** dB to ***+10*** dB
Factory setting: ***0*** dB

4. Press [SOUND MENU] to select "*EXIT* ", and press [OK] to finish the setting.

Press [RETURN] to return to the previous display or to cancel the setup in the halfway.

Adjusting the treble

You can adjust the treble through this operation.

1. Press [SOUND MENU] to enter the sound menu.

2. Press [▲][▼] to select "*TREBLE* ", and press [OK] to confirm.

3. Press [▲][▼] for adjustment, and press [OK] to confirm.

Adjustment range: ***–10*** dB to ***+10*** dB
Factory setting: ***0*** dB

4. Press [SOUND MENU] to select "*EXIT* ", and press [OK] to finish the setting.

Press [RETURN] to return to the previous display or to cancel the setup in the halfway.

Balancing front speaker volume

You can adjust the balance of the front speakers.

1. Press [SOUND MENU] to enter the sound menu.

2. Press [▲][▼] to select "*BALANCE* ", and press [OK] to confirm.

3. Press [◀][▶] for adjustment, and press [OK] to confirm.

How speakers are displayed
L : Front left, ***R*** : Front right

You can adjust the balance by moving the bar on the screen left and right.
- As the bar on the screen approaches "***L*** ", the audio output from speakers balances front left.
- As the bar on the screen approaches "***R*** ", the audio output from speakers balances front right.

4. Press [SOUND MENU] to select "*EXIT* ", and press [OK] to finish the setting.

Press [RETURN] to return to the previous display or to cancel the setup in the halfway.

Note
- The bar shows the current balance of the front speakers.
- You cannot use this function when both "A" and "B" are off.

Changing the audio output (Dual program)

You can select audio output mode when playing back dual audio sources.
- You can check the dual audio status on the display (➔ page 31).

1. Press [SOUND MENU] to enter the sound menu.

2. Press [▲][▼] to select "*DUAL* ", and press [OK] to confirm.

3. Press [▲][▼] to select an audio mode, and press [OK] to confirm.

MAIN : Main audio output
SAP : Sub channel audio output
M+S : Main and sub channel audio output
Factory setting: ***MAIN***

4. Press [SOUND MENU] to select "*EXIT* ", and press [OK] to finish the setting.

Press [RETURN] to return to the previous display or to cancel the setup in the halfway.

Listening clearly at low volume

This function compresses the dynamic range of Dolby Digital contents.
Without affecting the sound field, the function makes spoken lines easier to catch at low volume by reducing the difference between the maximum and minimum sounds created by audio signals. This convenient function allows you to enjoy commercial sources late at night when you cannot produce big sounds.

1. Press [SOUND MENU] to enter the sound menu.

2. Press [▲][▼] to select "*DRCOMP* ", and press [OK] to confirm.

3. Press [▲][▼] to select a mode and press [OK].

OFF :
The software is played with the original dynamic range.
STANDARD :
The level recommended for household viewing
MAX :
The maximum allowable compression (recommended for night viewing)
Factory setting: ***OFF***

4. Press [SOUND MENU] to select "*EXIT* ", and press [OK] to finish the setting.

Press [RETURN] to return to the previous display or to cancel the setup in the halfway.

Note
- This function does not work when transmitted signal information does not support it.

Using whisper mode surround

This function is effective only during surround playback.
This function enables the surround playback to be effective even when the volume is very low.

1. Press [SOUND MENU] to enter the sound menu.

2. Press [▲][▼] to select "*W. S.* ", and press [OK] to confirm.

3. Press [▲][▼] to select "*ON* ", and press [OK] to confirm.

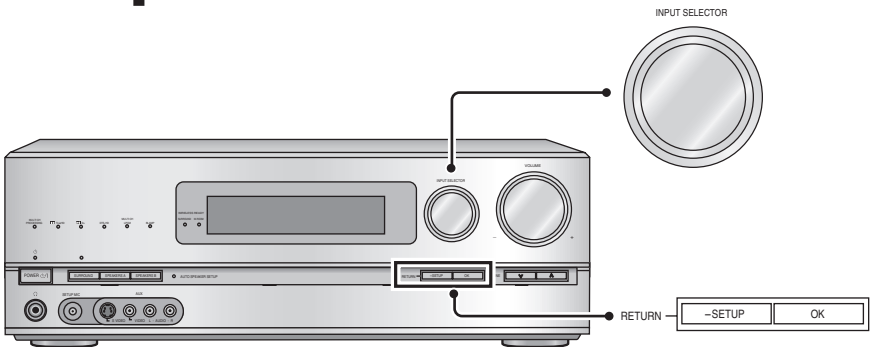
OFF : For not using whisper mode surround
ON : For using whisper mode surround
Factory setting: ***OFF***

4. Press [SOUND MENU] to select "*EXIT* ", and press [OK] to finish the setting.

Press [RETURN] to return to the previous display or to cancel the setup in the halfway.

Note
- This function is effective when Dolby Pro Logic IIx, NEO:6 or SFC is activated with 2-channel source input.
- This function cannot be used when SPEAKERS A is turned off.

Using the setup menu



Basic operation

Common operation for setup menu

	Using the remote control	Using the unit
To enter the SETUP	**Press and hold [OPTION PORT, –SETUP] for about 2 seconds.**	**Press and hold [RETURN, –SETUP] for about 2 seconds.**
To select items/ settings (See below for menu items.)	**Press [▲][▼] to select desired items or settings and press [OK] to confirm.**	**Turn [INPUT SELECTOR] to select desired items or settings and press [OK] to confirm.**
To finish the setting	**Press [RETURN] several times to select "*EXIT*" and press [OK] to finish the setting.** • The display returns to the previous screen. • You can also select "***EXIT***" by pressing [▲][▼] while selecting the SETUP items.	**Press [RETURN, –SETUP] several times to select "*EXIT*" and press [OK] to finish the setting.** • The display returns to the previous screen. • You can also select "***EXIT***" by turning [INPUT SELECTOR] while selecting the SETUP items.
To return to the previous display or to cancel the setup in the halfway	**Press [RETURN].**	**Press [RETURN, –SETUP].**

Setup menu items

The display shown below indicates the setup menu items. Refer to each section for details.

"DIMMER" ↔ *1 ***"TUNER"*** ↔ ***"SLEEP"*** ↔ ***"SPK SIZE"*** ↔ ***"DISTANCE"***
(➔ page 37) (➔ pages 48 and 49) (➔ page 37) (➔ page 37) (➔ page 37)

"FILTER FRQ" ↔ ***"AUTO SETUP"*** ↔ ***"LR BI-WIRE"*** ↔ ***"SPKR IMP"*** ↔ ***"IN ASSIGN"***
(➔ page 38) (➔ page 38) (➔ page 38) (➔ page 38) (➔ page 39)

"7.1CH VS" ↔ *2 ***"WIRELESS"*** ↔ ***"INPUT MODE"*** ↔ ***"AUX LEVEL"*** ↔ ***"HDMI"***
(➔ page 39) (➔ page 39) (➔ page 39) (➔ page 39) (➔ page 40)

"ATTENUATOR" ↔ ***"REMOTE"*** ↔ ***"SOUND DLY"*** ↔ ***"VOL MODE"*** ↔ ***"RESET"***
(➔ page 40) (➔ page 42) (➔ page 40) (➔ page 40) (➔ page 40)

"EXIT"

∗1 "***TUNER***" appears only when the selector is set to "***FM***" or "***AM***" (➔ pages 48 and 49).
∗2 "***WIRELESS***" appears only when the digital transmitter is inserted (➔ page 23).

Note

- If you press buttons other than [▲][▼], [OK] and [RETURN] while setting, the setup menu operation will stop. To continue the operation, see pages 37 to 40.

Adjusting the brightness of the display

Dim the display for better viewing in a darkened room.

1. To enter the SETUP (➔ page 36)

2. Press [▲][▼] to select "*DIMMER* ", and press [OK] to confirm.

3. Press [▲][▼] to select the setting, and press [OK] to confirm.

Adjustment range: ***DIMMER 1*** (bright) to ***DIMMER 3*** (dim)
Factory setting: ***DIMMER OFF***

4. To finish the setting (➔ page 36)

Note

- Select "***DIMMER OFF*** " to cancel.
- The brightness changes at the point of changing the setting. To confirm the setting, press [OK].

Using sleep timer

The unit automatically turns off when set time passes. This is a convenient function when going to bed, etc.

1. To enter the SETUP (➔ page 36)

2. Press [▲][▼] to select "*SLEEP* " and press [OK] to confirm.

3. Press [▲][▼] to select the setting, and press [OK] to confirm.

Setting range: ***OFF***, ***30***, ***60***, ***90***, ***120*** (minutes)
Factory setting : ***OFF***

4. To finish the setting (➔ page 36)

Note

- To cancel, select "***OFF*** ".
- "**SLEEP**" is displayed when the setting is complete.
- Once the sleep timer is set, the remaining time is displayed in step **2**.
- To change the setting, set time again in step **3**.

Setting speakers and their sizes

You can set connected speakers and their sizes manually. Different ranges are played by different speakers. Size setting is necessary for reproducing sources, particularly their bass section, completely.

1. To enter the SETUP (➔ page 36)

2. Press [▲][▼] to select "*SPK SIZE* ", and press [OK] to confirm.

3. Press [▲][▼] to select a speaker to set, and press [OK] to confirm.

SUBW : Subwoofer, ***LR*** : Front speakers,
C : Center speaker, ***S*** : Surround speakers,
SB : Surround back speakers

4. Press [▲][▼] to change the setting, and press [OK] to confirm.

SUBW : ***NO*** ; unconnected ***YES*** ; connected
LR, ***C***, ***S*** :
NONE ; For speakers you haven't connected (center or surround only).
SMALL ; For speakers that cannot adequately reproduce the bass range. This setting is sufficient for most speakers if you are using a subwoofer.
LARGE ; For speakers that can sufficiently reproduce the bass range down to 20 Hz.
SB :
NONE ; For speakers you haven't connected.
1-SPK ; If you connect one surround back speaker.
2-SPK ; If you connect two surround back speakers.

Factory settings: ***SUBW*** ; ***YES***
LR, ***C***, ***S*** ; ***SMALL***
SB ; ***2-SPK***

5. To finish the setting (➔ page 36)

Note

- Set the lowpass filter frequency according to frequencies available for playback when speakers are set as "***SMALL*** ". The factory setting is 80 Hz (➔ page 38).
- See the note on page 51.

Setting distances

By adjusting the distance from each speaker (except the subwoofer) to the seating area, the sound delay time is automatically adjusted so that sound reaches the listener at the same time.

1. To enter the SETUP (➔ page 36)

2. Press [▲][▼] to select "*DISTANCE* ", and press [OK] to confirm.

3. Press [▲][▼] to select a speaker to set, and press [OK] to confirm.

L : Front left, ***R*** : Front right, ***C*** : Center,
LS : Surround left, ***RS*** : Surround right,
SBL : Surround back left,
SBR : Surround back right

4. Press [▲][▼] to select the distance and press [OK] to confirm.

Adjustment range: ***1.0*** to ***45.0*** ft (feet)
This unit is adjusted at 0.5 feet intervals.
Factory settings: ***L***, ***R*** ; ***10.0*** ft (feet)
C ; ***10.0*** ft (feet)
LS, ***RS*** ; ***5.0*** ft (feet)
SBL, ***SBR*** ; ***5.0*** ft (feet)

5. To finish the setting (➔ page 36)

Note

- Speakers whose polarity was automatically adjusted through the auto speaker setup (➔ pages 24 and 25) are displayed with "**–** " such as "***L 3.0 –*** ".
- When the speaker distance measured through the auto speaker setup (➔ pages 24 and 25) exceeds 15 meters (45 feet), the distance is displayed as "***OVER*** ".

Using the setup menu

Setting the lowpass filter

If the speaker sizes (➔ page 37) are set to "***SMALL*** ", make this setting.
The unit cannot reproduce the entire bass range when speakers are set as "***SMALL*** ". You can arrange the unit to provide missing bass sounds through the subwoofer by setting the lowpass filter frequency according to frequencies available for playback.

1. To enter the SETUP (➔ page 36)

2. Press [▲][▼] to select "*FILTER FRQ* ", and press [OK] to confirm.

3. Press [▲][▼] to select the lowpass filter frequency, and press [OK] to confirm.

Lowpass filter frequency for sending the bass range to the subwoofer: ***40, 60, 80***, ***100***, ***120***, ***150***, ***200*** (Hz)
Factory setting: ***80*** (Hz)

4. To finish the setting (➔ page 36)

Note

- The setting made through these steps applies to all speakers set as "***SMALL*** ".

Changing auto speaker settings

To return speakers to factory settings

You can return settings made with the setup microphone to factory settings. (The "AUTO SPEAKER SETUP" indicator goes off when you perform this operation.)

1. To enter the SETUP (➔ page 36)

2. Press [▲][▼] to select "*AUTO SETUP* ", and press [OK] to confirm.

3. Press [▲][▼] to select "*DEFAULT* ", and press [OK] to confirm.

4. Press [▲][▼] to select "*YES* ", and press [OK] to confirm.

YES : For returning to factory settings
NO : For keeping auto settings
Factory setting: ***NO***
- To cancel, select "***NO*** ".

5. To finish the setting (➔ page 36)

Setting the unit against automatic polarity adjustment

The unit judges polarity of certain properly connected speakers as opposite. When this happens, set the unit against automatic polarity adjustment and prevent polarity reversal.

1. To enter the SETUP (➔ page 36)

2. Press [▲][▼] to select "*AUTO SETUP* ", and press [OK] to confirm.

3. Press [▲][▼] to select "*POLARITY* ", and press [OK] to confirm.

4. Press [▲][▼] to select "*CHECK NO* ", and press [OK] to confirm.

CHECK YES : Normal auto speaker setup
CHECK NO : No automatic polarity adjustment
Factory setting: ***CHECK YES***

5. To finish the setting (➔ page 36)

Adjusting the high-frequency sound quality of the set frequency response

You can adjust the high-frequency sound quality set for your preference.

1. To enter the SETUP (➔ page 36)

2. Press [▲][▼] to select "*AUTO SETUP* ", and press [OK] to confirm.

3. Press [▲][▼] to select "*EQ ADJUST* ", and press [OK] to confirm.

4. Press [▲][▼] to select the setting, and press [OK] to confirm.

OFF : For not using a set frequency response.
SOFT : High-frequency adjustment is rather small.
NORMAL : High-frequency adjustment is medium.
HARD : High-frequency adjustment is rather big.
Factory setting: ***NORMAL***

5. To finish the setting (➔ page 36)

Making bi-wire setting

Make sure to select "***YES*** " when you connect the unit to bi-wire speakers. The speakers do not produce adequate sounds unless you make this setting.

1. To enter the SETUP (➔ page 36)

2. Press [▲][▼] to select "*LR BI-WIRE* ", and press [OK] to confirm.

3. Press [▲][▼] to select "*YES* ", and press [OK] to confirm.

YES : When bi-wire speakers are connected
NO : When bi-wire speakers are not connected
Factory setting: ***NO***

4. To finish the setting (➔ page 36)

Setting the speaker impedance

Make this setting when the speaker impedance is low (4 Ω).

1. To enter the SETUP (➔ page 36)

2. Press [▲][▼] to select "*SPKR IMP* ", and press [OK] to confirm.

3. Press [▲][▼] to select "*4 OHMS* ", and press [OK] to confirm.

6 OHMS : When the speaker impedance is normal
4 OHMS : When the speaker impedance is low (4 Ω)
Factory setting: ***6 OHMS***

4. To finish the setting (➔ page 36)

Note

- If at least one speaker among connected speakers has the impedance of 4 Ω, set "***4 OHMS*** ".

Changing the input settings

You cannot assign one selector to the same type of two or more terminals. In this case, the selector set last becomes effective.

1. To enter the SETUP (→ page 36)

2. Press [▲][▼] to select "*IN ASSIGN* ", and press [OK] to confirm.

3. Press [▲][▼] to select the type of input terminal, and press [OK] to confirm.

HDMI3 (HDMI input 3), ***OPT1*** (Optical input 1), ***OPT2*** (Optical input 2), ***OPT3*** (Optical input 3), ***COAX*** (Coaxial input), ***CMPV3*** (Component Video input 3)
HDMI1, HDMI2, CMPV1 and CMPV2 are fixed to equipment beforehand and you cannot change the setting.

4. Press [▲][▼] to select the selector to assign, and press [OK] to confirm.

Allocatable selector:
HDMI3 : ***CBL*** (Cable box/Satellite receiver)***, GAME***
OPT1, OPT2, OPT3, COAX : ***DVR*** (DVD recorder)***, BD P*** (Blu-ray Disc/DVD player)***, CBL, GAME, CD, TV***
CMPV3 : ***CBL, GAME, VCR***
Factory setting:
HDMI3 : ***CBL***, ***OPT1*** : ***DVR***, ***OPT2*** : ***BD P***, ***OPT3*** : ***TV***, ***COAX*** : ***CD***, ***CMPV3*** : ***CBL***
Repeat steps 3 and 4 to change setting.

5. To finish the setting (→ page 36)

Setting the placement positions for surround speakers

Set the positions for surround speakers during 7.1-channel virtual surround playback.

1. To enter the SETUP (→ page 36)

2. Press [▲][▼] to select "*7.1CH VS* ", and press [OK] to confirm.

3. Press [▲][▼] to select setting, and press [OK] to confirm.

OFF :	When 7.1-channel surround playback effect is not used
SIDE SPK :	When the surround speakers are placed almost next to the listening-viewing position
REAR SPK :	When the surround speakers are placed at the back of the listening-viewing position
Factory setting :	***SIDE SPK***

4. To finish the setting (→ page 36)

Setting wireless speakers

Selecting the use of wireless speakers as surround speakers or multi room speakers when connecting SH-FX67 (not included).

1. To enter the SETUP (→ page 36)

2. Press [▲][▼] to select "*WIRELESS* ", and press [OK] to confirm.

3. Press [▲][▼] to select the setting, and press [OK] to confirm.

MULTI ROOM :	When enjoying music in another room using the wireless speakers
SURR SPKR :	When using the wireless speakers as surround left and right speakers
Factory setting:	***SURR SPKR***

4. To finish the setting (→ page 36)

Note

• See page 27 for more details.

Setting input signals

Most sources can be played with "***AUTO*** " (factory setting). However, in the following cases, change the input signal detection setting.

• When the beginning of the song is cut during playback of CD, set to "***PCM*** " (PCM FIX).
• You can fix the signal type (digital, analog or PCM) supplied by such equipment as the DVD recorder and the Blu-ray Disc/DVD player or make the unit identify the input signal type.

1. To enter the SETUP (→ page 36)

2. Press [▲][▼] to select "*INPUT MODE* ", and press [OK] to confirm.

3. Press [▲][▼] to select a desired digital input terminal, and press [OK] to confirm.

TV, ***CBL*** (Cable box/Satellite receiver), ***DVR*** (DVD recorder), ***BD P*** (Blu-ray Disc/DVD player), ***CD***, ***GAME***

4. Press [▲][▼] to select the method for identifying input signals, and press [OK] to confirm.

AUTO : Automatic detection (Taking priority in order of HDMI, OPTICAL, COAXIAL)
ANLG : Fixes the input signal to analog
DIG : Fixes the input signal to digital
PCM : PCM (from CDs) digital input fixed
Factory setting: ***AUTO***
Repeat steps 3 and 4 to change setting.

5. To finish the setting (→ page 36)

• When "***CBL*** ", "***GAME*** ", "***TV*** " and "***CD*** " are not assigned to the digital terminal such as HDMI, OPTICAL and COAXIAL (→ left), only "***AUTO*** " and "***ANLG*** " can be selected.
• "**DIGITAL INPUT**" stays on the display when you fix the input signal as digital.
• "**PCM**" always appears on the display when PCM FIX is set.
• "***PCM FIX*** " flashes on the display when the unit is in the PCM FIX mode and a non-PCM source is input through digital connections (optical, coaxial).

Adjusting input levels for external terminals

Make this setting when you feel the volume of the equipment connected to external terminals is low.

1. To enter the SETUP (→ page 36)

2. Press [▲][▼] to select "*AUX LEVEL* ", and press [OK] to confirm.

3. Press [▲][▼] to select the input level, and press [OK] to confirm.

LEVEL LOW : Normal volume setting
LEVEL HIGH : Setting when you want to raise the volume
Factory setting: ***LEVEL LOW***
• Make this setting when you feel the volume of the equipment connected to external terminals is low.

4. To finish the setting (→ page 36)

Using the setup menu

Reducing standby power consumption (power save mode)

1. **To enter the SETUP (➔ page 36)**
2. **Press [▲][▼] to select "*HDMI* ", and press [OK] to confirm.**
3. **Press [▲][▼] to select "*STNBY* ", and press [OK] to confirm.**
4. **Press [▲][▼] to select "*OFF* ", and press [OK] to confirm.**

OFF : When you wish to reduce standby power consumption

ON : When you activate the standby through function (➔ page 13) (standby power consumption becomes 0.8 W in this setting)

Note

When you select "***OFF*** ", the followings become applicable.

- Standby power consumption becomes 0.4 W.
  – Standby through with HDMI connections does not work.
- VIERA Link (➔ pages 32 and 33) is cancelled when the unit is off.

Factory setting: ***ON***

5. **To finish the setting (➔ page 36)**

Setting VIERA Link to *"OFF"*

1. **To enter the SETUP (➔ page 36)**
2. **Press [▲][▼] to select "*HDMI* ", and press [OK] to confirm.**
3. **Press [▲][▼] to select "*CTRL* ", and press [OK] to confirm.**
4. **Press [▲][▼] to select "*OFF* ", and press [OK] to confirm.**

OFF : When you do not use VIERA Link function

ON : When you use VIERA Link function

Factory setting: ***ON***

5. **To finish the setting (➔ page 36)**

Switching the attenuator

Switch the attenuator "***ON*** " when sounds become distorted while playing an analog input source.

1. **To enter the SETUP (➔ page 36)**
2. **Press [▲][▼] to select "*ATTENUATOR* ", and press [OK] to confirm.**
3. **Press [▲][▼] to select "*ON* ", and press [OK] to confirm.**

OFF : For switching the attenuator off

ON : For switching the attenuator on

Factory setting: ***OFF***

4. **To finish the setting (➔ page 36)**

Adjusting the time lag by delaying audio output when pictures on TV arrives after sounds

1. **To enter the SETUP (➔ page 36)**
2. **Press [▲][▼] to select "*SOUND DLY* ", and press [OK] to confirm.**
3. **Press [▲][▼] to select the setting, and press [OK] to confirm.**

AUTO, ***OFF***, ***10***, ***20***, ***30***, ***40***, ***60***, ***80***, ***100***, ***120***, ***140***, ***160***, ***180***, ***200*** (msec)

Factory setting: ***AUTO***

Note

- "***AUTO*** " can only be effective when connecting the unit to an HDAVI Control 3 compatible Panasonic TV (VIERA) (➔ page 32).
- When connecting the unit to a Panasonic TV (VIERA), which does not incorporate HDAVI Control 3, or other company's TV, "***AUTO*** " setting automatically becomes "***40*** " (msec).

4. **To finish the setting (➔ page 36)**

Changing the volume display

You can change the volume display from dB value to numeric value.

1. **To enter the SETUP (➔ page 36)**
2. **Press [▲][▼] to select "*VOL MODE* ", and press [OK] to confirm.**
3. **Press [▲][▼] to select the display, and press [OK] to confirm.**

Numeric value display: This mode displays the sound volume value in number from ***0*** to ***50***. (Factory setting: ***16***)

dB value display: This mode displays the sound volume value in dB value. (Factory setting: ***–48dB***)

Factory setting: dB value display

4. **To finish the setting (➔ page 36)**

Note

- When you change the volume display, the sound volume returns to the factory setting.

Reset (factory settings)

The operation settings for the unit will be initialised to the settings made at the time of shipment.

1. **To enter the SETUP (➔ page 36)**
2. **Press [▲][▼] to select "*RESET* ", and press [OK] to confirm.**
3. **Press [▲][▼] to select "*YES* ", and press [OK] to confirm.**

YES : Choice for resetting

NO : Choice against resetting

- To cancel, select "***NO*** ".

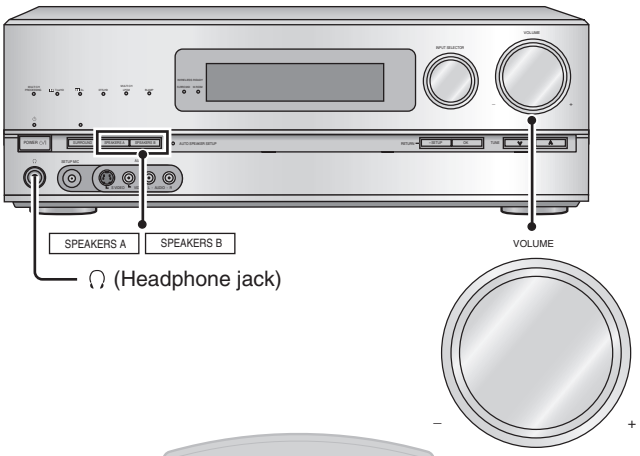
Factory setting: ***NO***

Note

- When you select "***YES*** ", the input is switched to "***FM*** ".

4. **To finish the setting (➔ page 36)**

Using headphones



1. Press [SPEAKERS A] and [SPEAKERS B] to switch all speakers off.

2. Lower the volume by pressing [VOL ◢ +, –] and connect headphones to the unit.

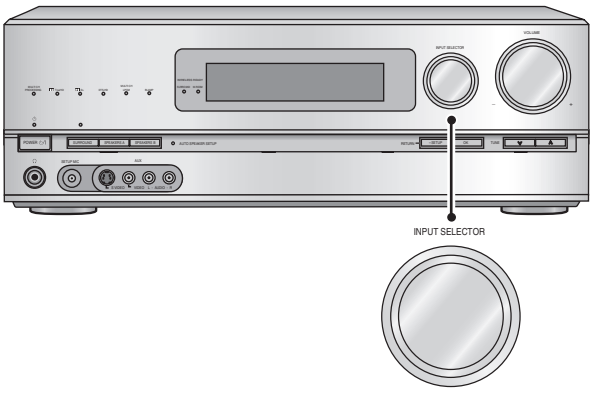
Plug type: ø 6.3 mm stereo standard plug

3. Adjust the volume by pressing [VOL ◢ +, –].

Note

- Avoid listening for prolonged periods of time to prevent hearing damage.
- Playback channels become two when you switch all speakers off. The 2-channel mix (2CH MIX) function activates automatically when you play a surround source. (Excluding DVD-Audio sources that do not allow down-mixing)
- The ANALOG 8CH (➔ page 27) goes off and front two channels make audio output when you play sources through analog 8-channel connections (➔ page 20).
- Excessive sound pressure from earphones and headphones can cause hearing loss.

Recording



You can record to a DVD recorder connected to DVD RECORDER OUT terminal (AUDIO, VIDEO, S VIDEO) (➔ page 21).
See the recording unit's operating instructions for details on how to prepare it for recording.

1. Press [INPUT SELECTOR] to select the source to be recorded.

- You can also switch input sources using [INPUT SELECTOR] on this unit.

2. Start recording sounds and images for the recording destination (equipment).

3. Start playing back the recording source (sound source) of the recording destination (equipment).

Note

- Sounds coming into the input terminal of DVD recorder are not produced from the output terminal of DVD recorder.
- When recording from a Blu-ray Disc/DVD player, DVD recorder, VCR, Cable box, Satellite receiver, CD player, Video game or TV ensure the source is connected through the analog input terminals and "***ANLG*** " input is selected (➔ page 39).
- When you select ANALOG 8CH mode, only sound from the front left and right channels is recorded.
- Do not turn the unit off during operation.

Remote controlling a TV or DVD recorder etc.

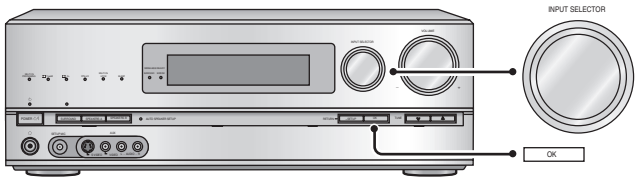
Besides this unit, you can operate a Panasonic TV, cable box and satellite receiver, DVD recorder and Blu-ray Disc/DVD player, (excluding certain models) using the supplied remote control. See respective equipment's operating instructions for detailed operations.

Remote controlling a TV, cable box and satellite receiver

Aim the remote control at the equipment you wish to operate.

TV Do not forget to press this before operating a TV.	**To switch the unit's input to "*TV* "** **To switch the remote control to the TV operation mode**
CABLE SAT Do not forget to press this before operating cable box or satellite receiver.	**To switch the unit's input to "*CABLE/SAT* "** **To switch the remote control to the cable box or satellite receiver operation mode**
AV SYSTEM	**To turn the equipment on or off**
TV/VIDEO	**(TV only)** **To switch the TV's input mode**
TV VOL	**(TV only)** **To adjust the TV volume**
CH	**To select a channel** • When you make a selection in rising or falling order.
1 2 3 4 5 6 7 8 9 0 ≧10 ENTER	**To select a channel** • When you select a channel directly.

Using two or more Panasonic equipment (a mini component system, an AV amp etc.)



Two or more pieces of Panasonic audio equipment may start functioning when you operate the unit using the supplied remote control. Switch the unit's remote control mode to "***REMOTE 2*** " in such cases.
Do the following to **set the same number as the remote control mode.**

(Operations on the unit)

1. **To enter the SETUP (→ page 36)**
2. **Turn [INPUT SELECTOR] to select "*REMOTE* ", and press [OK] to confirm.**
3. **Turn [INPUT SELECTOR] to select "*1* " or "*2* ", and press [OK] to confirm.**
   "***1*** ": (Factory setting): Set the unit's remote control mode to 1.
   "***2*** ": Set the unit's remote control mode to 2.
4. **To finish the setting (→ page 36)**

(Operations on the remote control)

5. **Press [FM/AM].**
6. **Press [1] or [2] and [OK] simultaneously and hold them in the position for about 2 seconds.**
   [**1**]: (Factory setting): Set the remote control mode on the remote control to 1.
   [**2**]: Set the remote control mode on the remote control to 2.
   • Select the same number as the mode number you have selected in step **3**.
7. **Press [OPTION PORT, –SETUP].**
8. **Press [1] or [2] and [OK] simultaneously and hold them in the position for about 2 seconds.**
   [**1**]: (Factory setting): Set the remote control mode on the remote control to 1.
   [**2**]: Set the remote control mode on the remote control to 2.
   • Select the same number as the mode number you have selected in steps **3** and **6**.

Remote controlling a DVD recorder

Aim the remote control at the equipment you wish to operate.

☞ When operating a Panasonic DVD recorder using the supplied remote control

Change the control setting on the supplied remote control to match the DVD recorder's remote control mode.

Preparation

Confirm the DVD recorder's remote control mode in its operating instructions.

1. **Press [DVD RECORDER].**
2. **Press and hold [OK] together with [1], [2] or [3] for 2 seconds or longer.**

- [Mode 1], [Mode 2], or [Mode 3] is set on the remote control according to the pressed button.
- The factory setting is [Mode 1].

☞ When DVD recorder drives do not switch

The condition may mean the DVD recorder does not recognize the signal this unit's remote control transmits.
Switch the drives again after changing the signal in the following procedure.

1. **Press [DVD RECORDER].**
2. **Press and hold [OK] together with [8] for 2 seconds or longer.**

- To return: In step **2** above, press and hold [OK] together with [9] for 2 seconds or longer.

Note

- When you operate a DVD recorder with built-in VCR, press [DRIVE SELECT] to select a choice other than VCR.

RECORDER DVD Do not forget to press this before operating a DVD recorder.	**To switch the unit's input to "*DVD R.*"** **To switch the remote control to the DVD recorder operation mode**
AV SYSTEM	**To turn the DVD recorder on or off**
PLAY	**To start playback**
SKIP	**To skip a track or chapter**
SEARCH/SLOW	**To search through the disc**
PAUSE SEARCH/SLOW	**To play in slow-motion**
TOP MENU / DIRECT NAVIGATOR	**To show the direct navigator (or the top menu)**
SUB MENU	**To show a sub menu**
FUNCTIONS	**To show the FUNCTIONS window (while stopped)**
RETURN	**To return to the previous screen**
	To select an item • Press to select after pressing [DIRECT NAVIGATOR, TOP MENU], [SUB MENU], or [FUNCTIONS].
OK	**To confirm the selected item**
1 2 3 4 5 6 7 8 9 0 ≧10 ENTER	**To select a track or chapter directly** • Some of the models require you to press [OK] to confirm after pressing numbered buttons. **To select a channel** • When you select a channel directly.
PAUSE	**To pause**
PAUSE	**To move forward or backward frame by frame**
DRIVE SELECT	**To switch DVD recorder drives (HDD, DVD and SD drive etc.)**
CH	**To select a channel** • When you make a selection in rising or falling order.
STOP	**To stop playback**

Remote controlling a TV or DVD recorder etc.

Remote controlling a Blu-ray Disc/DVD player

Entering a code to operate other equipment

This remote control can operate Panasonic and Technics audio-visual equipment that has remote control sensors. You may need to change the remote control code. It can also operate some other brands of TVs, DVD recorders, and Blu-ray Disc/DVD players etc. Check the list for the brand and enter the code as follows.

According to the compatible equipment, press and hold [TV], [DVD RECORDER], [BD/DVD PLAYER] or [CABLE SAT], and then input the code number using the numbered buttons (→ below).

e.g. When controlling Epson TV

Press and hold [TV] → Press [0]→[8]→[3]→[3] or [0]→[8]→[4]→[0].

The remote control outputs the on/off signal.

If the setting is correct, the equipment is turned ON or OFF.

Note

- Note that this remote control cannot operate some equipment and that it may not be able to perform some operations.
- Re-enter the codes after you change the batteries.

Code List

	TV	DVD Recorder, BD/DVD Player	CABLE / STB
Panasonic	0051/0055/0250/0650/1291/1410/1480/1919/1941/1946/1947	0040/0490/0703/1362/1462/1490/1762	0000/0001/0107
ABC	–	–	0003/0008/0014/0017
Accurian	–	1072/1416	–
Admiral	0093/0463	–	–
Advent	0761/0783/0815/0817/0842/1933	1016	–
Aiko	0092	–	–
Aiwa	–	0641	–
Akai	0030/0672/0702/0812/1675/1676/1903/1935	0695/0770/0899/1089	–
Albatron	0700/0843	–	–
Alco	–	0790	–
Allegro	–	0869	–
Ambassador	0177	–	–
America Action	0180	–	–
Americast	–	–	0899
Amino	–	–	1602/1822
Amphion Media Works	–	0872	–
Ampro	0751	–	–
Anam	0180	–	–
Anam National	0055	–	–
AOC	0030/0185/1365	–	–
Apex Digital	0748/0765/0767/0879/0890/1217/1943	0672/0717/0755/0794/0796/0797/0830/1004/1020/1056/1061/1100	–
Arrgo	–	1023	–
Aspire Digital	–	1168/1407	–
Audiovox	0092/0171/0180/0451/0623/0802/0875/1937/1951/1952	0790/1071/1072/1121/1122	–
Axion	1937	1071/1072	–
Bell & Howell	0154	–	0014
Bell South	–	–	0899
BenQ	1032	–	–
Blaupunkt	–	0717	–
Blue Parade	–	0571	–
Bradford	0180	–	–
Broksonic	0236/0463/1911/1929/1935/1938	0695/0868	–
Candle	0030/0186	–	–
Carnivale	0030	–	–
Carver	0054	–	–
Celebrity	0000	–	–
Celera	0765	–	–
Changhong	0765	–	–
Cinea	–	0831	–
CineVision	–	0833/0869/0876	–
Citizen	0030/0060/0092/0186/1928/1935	0695/1277	–
Clairtone	0185	–	–
Clarion	0180	–	–
Clearmaster	–	–	0883
ClearMax	–	–	0883
Coby	–	0778/0852/1086/1107/1165/1177	–
Commercial Solutions	0047/1447	–	–
Contec	0180/0185	–	–
Coolmax	–	–	0883
Craig	0180	0831	–
Crosley	0054	–	–
Crown	0180	–	–
Curtis Mathes	0030/0047/0054/0060/0093/0145/0154/0166/0451/0466/0702/1147/1347/1919	1087	–
CXC	0180	–	–
CyberHome	–	0816/0874/1023/1024/1117/1129/1502	–
Cytron	1326	–	–
Daewoo	0092/0451/0623/0661/0672/1661/1928	0705/0784/0833/0869/1169/1172/1234/1242/1441	–
Dell	1080/1178	–	–
Denon	0145/0511	0490/0634	–
Denstar	0628	–	–
Desay	–	1407	–
Digeo	–	–	1187
Digi	–	–	0637
Director	–	–	0476
Disney	–	0675/1270	–
Dual	–	1068/1085	–
Dumont	0017	–	0637
Durabrand	0180/0171/0178/0463/1034	1127	–
DVD2000	–	0521	–

	TV	DVD Recorder, BD/DVD Player	CABLE / STB
Dwin	0720/0774	–	–
Electroband	0000/0185	–	–
Electrograph	1755	–	–
Electrohome	0463	–	–
Emerson	0154/0171/0177/0178/0180/0185/0236/0282/0463/0623/1394/1911/1928/1929/1944	0591/0675/0821/1268	–
Enterprise	–	0591	–
Envision	0030/0813/1365	–	–
Epson	0833/0840	–	–
ESA	0171/0812/1944	0821/1268	–
Fisher	0154/0159	0670	–
Fujitsu	0186/0683/0809/0853	–	–
Funai	0171/0180/1271/1904	0675/1268/1334	–
Futuretech	0180	–	–
Gateway	1755/1756	1073/1077/1158/1194	–
GE	0047/0055/0051/0135/0178/0282/0451/1347/1447/1917/1919/1922	0522/0815/0717	–
General Instrument	–	–	0003/0276/0476/0810
Gibralter	0017/0030	–	–
Go Video	0886	0715/0741/0744/0783/0833/0869/1044/1075/1099/1158/1304/1730	–
Go Vision	–	1071/1072	–
GoldStar	0030/0178/1926	0741	0144
Greenhill	–	0717	–
Grunpy	0180	–	–
Haier	0768/1034	–	–
Hallmark	0178	–	–
Hamlin	–	–	0009/0273
Hannspree	1348	–	–
Harley Davidson	1904	–	–
Harman/Kardon	0054	0582/0702	–
Harvard	0180	–	–
Havermy	0093	–	–
Helios	0865	–	–
Hello Kitty	0451	–	–
Hewlett Packard	1088/1089/1494/1502	–	–
Hisense	0748	–	–
Hitachi	0145/0151/0797/1145/1904/1960	0573/0664/1247	–
Hiteker	–	0672	–
HP	1088/1089/1494/1502	–	–
Humax	–	1588	–
Hyundai	0849	–	–
i3 Micro	–	–	1602
iLo	–	1348	–
Infinity	0054	–	–
Initial	–	0717	–
Insignia	0171/1204/1326/1517	1268	–
Integra	–	0627	–
Inteq	0017	–	–
JBL	0054	0702	–
JCB	0000	–	–
Jensen	0761/0815/0817/1933	1016	–
Jerrold	–	–	0003/0012/0014/0276/0476/0810
JSI	–	1423	–
JVC	0053/0731/1253/1923	0558/0623/0867/1164	–
jWin	–	1049	–
Kawasaki	–	0790	–
KDS	1498	–	–
KEC	0180	–	–
Kenwood	0030	0490/0534	–
KLH	0765/0767	0717/0790/1020/1149	–
Konka	0628/0632/0638/0703/0707	0711/0719/0720	–
Koss	–	0651/0896/1423	–
Kost	1262	–	–
KTV	0030/0180/0185	–	–
Landel	–	0826	–
Lasonic	–	0798/1173	–
Lenoxx	–	1127	–
LG	0178/0700/0829/0856/1178/1265/1758	0591/0741/0801/0869	–
LiteOn	–	1058/1158/1416/1440	–
Lloyd's	1904	–	–
Loewe	–	0511/0885	–
LXI	0047/0054/0154/0156/0178	–	–
MAG	1498	–	–

Remote controlling a TV or DVD recorder etc.

■ Code List (continued)

	TV	DVD Recorder, BD/DVD Player	CABLE / STB
Magnasonic	1928	–	–
Magnavox	0030/0054/0186/0706/0802/1198/1254/1365/1454/1525/1904/1931/1944	0503/0539/0646/0675/0821/1268	–
Malata	–	0782/1159	–
Marantz	0030/0054/0704/0854/0855/1154	0539	–
Matsushita	0250/0650	–	–
Maxent	1755	–	–
Megapower	0700	–	–
Megatron	0145/0178	–	–
MEI	0185	–	–
Memorex	0150/0154/0178/0463/1911/1926	0695/0831/1270	0000
MGA	0030/0150/0178	–	–
Microsoft	–	0522/1708	–
Midland	0017/0047/0051/0135	–	–
Mintek	–	0717/0839	–
Mitsubishi	0093/0150/0178/0836/0868/1250/1917	0521/1521	–
Momitsu	–	1082	–
Monivision	0700/0843	–	–
Motorola	0055/0093	–	0276/0476/0810/1106/1187/1254/1376
MTC	0030/0060/0185	–	–
Multitech	0180	–	0883
Myrio	–	–	1602/1822
NAD	0156/0178/0866/1156	0741	–
NEC	0030/0497/0882/1704	0785	–
Nesa	–	0717	–
NetTV	1755	–	–
Next Base	–	0826	–
NexxTech	–	1402	–
Nikko	0030/0092/0178	–	–
Norcent	0748/0824/1089/1365	0872/1003/1107/1265	–
NTC	0092	–	–
Olevia	1144/1240/1331/1610	–	–
Onkyo	–	0503/0627/0792	–
Onwa	0180	–	–
Optimus	0154/0166/0250/0650	–	–
Optoma	0887	–	–
OptoMedia Electronics	–	0896	–
Optonica	0093/0165	–	–
Orion	0236/0463/1463/1911/1929	–	–
Oritron	–	0651	–
Pace	–	–	0008/0237/1877
Panther	–	–	0637
Paragon	–	–	0000
Penney	0030/0047/0051/0060/0135/0156/0178/1347/1919/1926	–	–
Petters	1523	–	–
Philco	0030/0054	–	–
Philips	0054/0690/1154/1454/1961	0503/0539/0646/0675/0854/1260/1267/1354	0317/1305
Pilot	0030	–	–
Pioneer	0166/0679/0866/1260	0525/0571/0631	0144/0533/0877/1877
Polaroid	0765/0865/1262/1276/1314/1316/1326/1327/1328/1341/1498/1523	1020/1061/1086	–
Polk Audio	–	0539	–
Portland	0092	0770	–
Presidian	–	0675/1072	–
Prima	0761/0783/0815/0817/1933	1016	–
Princeton	0700/0717	–	–
Prism	0051	–	–
Porscan	0047/1347/1447/1922	0522	–
Proton	0178/0466	–	–
Proview	1498	–	–
ProVision	–	0778	–
Pulsar	0017	–	0000
Quasar	0051/0055/0165/0250/0650/1919	–	0000
Qwestar	–	0651	–
RadioShack	0030/0047/0154/0165/0180/0178/1904	–	0883
RCA	0047/0090/0135/0679/1047/1147/1247/1347/1547/1917/1919/1922/1948/1953/1958	0522/0571/0717/0790/0822/1022/1132/1769	1256
Realistic	0030/0154/0165/0178/0180	–	–
Regal	–	–	0273/0279
Rhapsody	0185	–	–
Rio	–	0869	–
Rotel	–	0623	–
Rowa	–	0823	–
Runco	0017/0030/0497/0603	–	0000
Sampo	0030/1755	0698/0752	–
Samsung	0030/0060/0178/0702/0766/0812/0814/1060/1312/1903/1959	0199/0490/0573/0820/0899/1044/1075	0144
Sansui	0463/1904/1911/1929/1935	0695	–

	TV	DVD Recorder, BD/DVD Player	CABLE / STB
Sanyo	0088/0154/0159/0799/0893/1142	0670/0695/0873	–
Sceptre	0878/1217	–	–
Scientific Atlanta	–	–	0008/0017/0477/0877/1877
Scotch	0178	–	–
Scott	0178/0180/0236	–	–
Sears	0047/0054/0154/0156/0178/0171/0159/1904/1926	–	–
Sejin	–	–	1602
Sensory Science	–	1158	–
Sharp	0093/0165/0491/0688/0689/0818/0851/1393/1602/1917	0630/0675/0752/1256	–
Sharper Image	–	1117	–
Sheng Chia	0093	–	–
Sherwood	–	0633/0770/1043/1077	–
Shinsonic	–	0533/0839	–
Signet	1262	–	–
Simpson	0186	–	–
Sonic Blue	–	0869/1099	–
Sony	0000/0080/0810/0834/1100/1317/1685/1904/1925	0533/0864/1033/1070/1431/1533	1006
Soundesign	0178/0180/0186	–	–
Sova	1952	1122	–
Spectroniq	1498	–	–
Squareview	0171	–	–
SSS	0180	–	–
Starcom	–	–	0003
Starlite	0180	–	–
Studio Experience	0843	–	–
Supercable	–	–	0276
Supermax	–	–	0883
Superscan	0093/0864	0821	–
Supreme	0000	–	–
SVA	0587/0748/0768/0865/0870/0871/0872	0860/1105	–
Sylvania	0030/0054/0171/1271/1314/1394/1931/1944	0675/0821/1268	–
Symphonic	0171/0180/1904/1944	0675/0821	–
Syntax	1144/1240/1331	–	–
Tandy	0093	–	–
Tatung	0055/1756	–	–
Teac	–	0790	–
Technics	0051/0250	0490/0703	–
Technosonic	–	0730	–
Techview	0847	–	–
Techwood	0051	–	–
Teknika	0054/0060/0092/0150/0180/0186	–	–
Telefunken	0702	–	–
Theta Digital	–	0571	–
Thomas	1904	–	–
Thomson	–	–	1256
TMK	0177/0178	–	–
TNCi	0017	–	–
Tocom	–	–	0012
Torx	–	–	0003
Toshiba	0060/0154/0156/0650/0832/0845/1156/1256/1265/1343/1356/1524/1656/1704/1918/1935/1936/1945	0503/0695/1045/1154/1588/1769	0000
Tosonic	0185	–	–
Tredex	–	0800	–
Tristar	–	–	0883
TVS	0463	–	–
Urban Concepts	–	0503	–
US Logic	–	0839	–
V2	–	–	0883
Vector Research	0030	–	–
Venturer	–	0790	–
Victor	0053	–	–
Vidikron	0054	–	–
Vidtech	0178	–	–
Viewmaster	–	–	0883
Viewsonic	0797/0857/0864/0885/1330/1578/1627/1755	–	–
Vision	–	–	0883
Vizio	0864/0885/1499/1756/1758	1064/1226	–
Vortex View	–	–	0883
Wards	0030/0054/0080/0165/0178/0866/1156	–	–
Waycon	0156	–	–
Westinghouse	0885/0889/0890/1282/1577	–	–
White Westinghouse	0463/0623	–	–
Wyse	1365	–	–
Xbox	–	0522/1708	–
Yamaha	0030/0769/0797/0833/0839	0490/0539/0545	–
Zenith	0017/0092/0178/0463/1265/1904/1911/1929	0503/0591/0741/0869	0000/0525/0899
Zoece	–	1265	–

Playing an iPod on this unit

You can play/recharge an iPod (not included) when you attach the separately sold universal dock (SH-PD10) for iPod into the option port slot and connect a compatible iPod.

- Also read operating instructions for the universal dock for iPod (SH-PD10).
- On this unit, you cannot play still pictures or motion pictures contained in an iPod.
- The unit is not compatible with SH-FX570 Wireless Kit. Do not connect SH-FX570 to the option port terminal.

Connection

Turn off the iPod (not included) before connections.

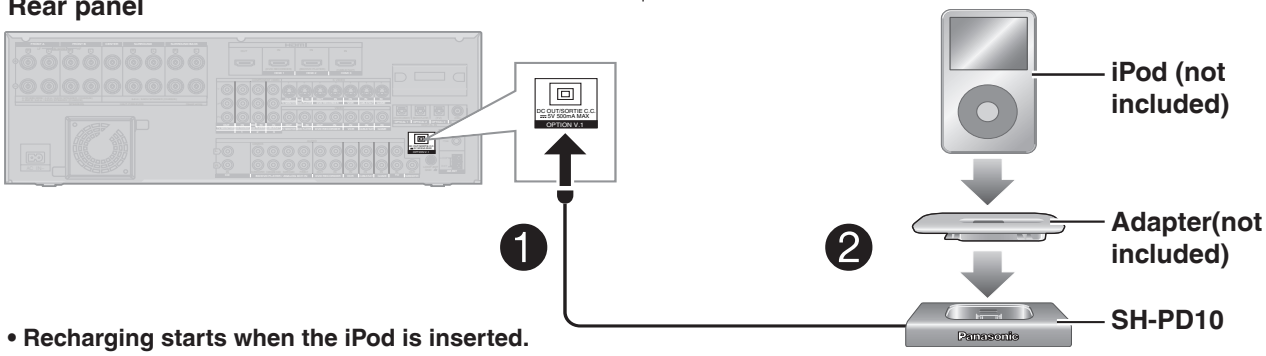
❶ Connect the universal dock for iPod (SH-PD10).

❷ Connect the iPod (not included) firmly.

① Attach the adapter supplied with the iPod.
- When the adapter is not supplied, purchase it from Apple Inc.

② Attach the iPod.

Rear panel



- **Recharging starts when the iPod is inserted.**

Note

About recharging the battery

- iPod will start recharging regardless of whether this unit is on or off.
- "***OPTION P.*** ∗ " (∗ part is rotating on the actual display.) is shown on the main unit's display during iPod recharging in main unit standby mode.
- While recharging is in progress, the standby indicator "⏻" goes off and all main unit's operations except ON/OFF operation are unavailable.
- Standby through function (➔ page 13) is available.
- Check iPod to see if the battery is fully recharged.
- If you are not using iPod for an extended period of time after recharging has completed, disconnect it from main unit, as the battery will be depleted naturally. (Once fully recharged, additional recharging will not occur.)

Playing music recorded on iPod

❶ Press [OPTION PORT, –SETUP].

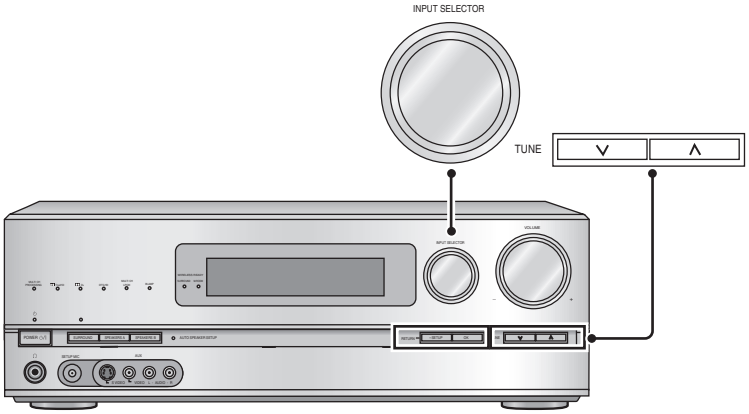
❷ Press [PLAY ▶] to playback the music contents.
- You can check the operation status on the iPod screen.

Basic controls

Operate with the remote control buttons.

Buttons	Functions
PLAY ▶	Play
STOP ■	Pause • Press [PLAY ▶] to restart play. • Playback start position may not be stored in memory in certain cases.
PAUSE ❚❚	
⏮ SKIP ⏭	Skip
(Press and hold) ◀◀ ▶▶ SEARCH/SLOW	Search

Listening to the Radio



Preset tuning

Auto presetting

1. Set the channel reception to FM 87.9 MHz (200 kHz steps) / FM 87.5 MHz (100 kHz steps) or AM 520 kHz (➔ page 49).

- You can start with the frequency you like. In that case, stations with frequencies before the starting point cannot be memorized.
- Up to 30 stations can be set in each band, FM and AM.

2. To enter the SETUP (➔ page 36)

3. Press [▲][▼] to select "*TUNER* ", and press [OK] to confirm.

4. Press [▲][▼] to select "*AUTO MEMO* ", and press [OK] to confirm.

5. Press [▲][▼] to select "*START* ", and press [OK] to confirm.

- Select "***CANCEL*** " to cancel.

Note

- During automatic presetting, the memory indicator "M" lights up.
- "***SET OK*** " is displayed when automatic presetting is finished. Then, the previously tuned station is displayed.
- Frequencies may not be preset correctly when broadcast waves are too strong or too weak. In such cases, carry out presetting manually.
- To cancel during automatic presetting, press [OK].

Manual presetting

1. Tune to the station you want to preset (➔ page 49).

2. To enter the SETUP (➔ page 36)

3. Press [▲][▼] to select "*TUNER* ", and press [OK] to confirm.

4. Press [▲][▼] to select "*MEMORY* ", and press [OK] to confirm.

5. Press [▲][▼] to select a channel to memorize, and press [OK] to confirm.

- "***STORED*** " is displayed.
- To continue presetting, repeat the procedure from step **1**.

6. To finish the setting (➔ page 36)

- FM stations can also be preset in the "***MONO*** " mode (➔ page 49).

Listening to preset stations (using the remote control)

1. Press [FM/AM] to select "*FM* " or "*AM* ".

2. Press [CH ∧, ∨] to select a channel.

■ **Entering the channel number directly using the numbered buttons**

To select a two digit channel number
e.g. 21: [≧ 10, ENTER] → [2] → [1]

Note

- You cannot operate this function on the unit.

Manual tuning

"**TUNED**" is displayed when a station is tuned.
"**ST**" is displayed when a stereo FM broadcast is tuned.

Tuning directly using the numbered buttons

1. Press [FM/AM] to activate the radio.

2. Press [FM/AM] to select "*FM* " or "*AM* ".

3. Press [DIRECT TUNING, DISC] to select Direct Tuning Mode.

4. Press the numbered buttons to enter the frequency.
e.g. FM 107.9 MHz,
Press [DIRECT TUNING, DISC] → [1] → [0] → [7] → [9].

- If you do not press a button while the cursor is flashing, the display returns to the frequency being received.
- If the frequency has not been input correctly, "***ERROR*** " will be displayed.

Using the unit

1. Turn [INPUT SELECTOR] to select "*FM* " or "*AM* ".

2. Press [TUNE ∨ or ∧] to tune in a station.

Using the remote control

1. Press [FM/AM] to select "*FM* " or "*AM* ".

2. Press [◀◀] [▶▶] to tune in a station.

■ Automatic tuning

Hold down [TUNE ∨ or ∧] on the unit or [◀◀] [▶▶] on the remote control until the frequency begins to scroll.

- Tuning stops when a station is found.
- Tuning may stop if there is interference.

Note

- To cancel during auto tuning, press [TUNE ∨ or ∧] on the unit or [◀◀] [▶▶] on the remote control.

Reducing excessive noise

■ During FM stereo reception

You can improve FM reception by switching reception to monaural.

1. To enter the SETUP (→ page 36)

2. Press [▲][▼] to select "*TUNER* ", and press [OK] to confirm.

3. Press [▲][▼] to select "*FM MODE* ", and press [OK] to confirm.

4. Press [▲][▼] to select "*MONO* ", and press [OK] to confirm.
- When this is set, "**MONO**" appears on the display.
- Select "***AUTO*** " to cancel.

5. To finish the setting (→ page 36)

■ During AM reception

When there is a lot of noise interference with an AM broadcast, try switching to this mode.

1. To enter the SETUP (→ page 36)

2. Press [▲][▼] to select "*TUNER* ", and press [OK] to confirm.

3. Press [▲][▼] to select "*BEAT PROOF* ", and press [OK] to confirm.

4. Press [▲][▼] to select "*MODE 1* " or "*MODE 2* ", and press [OK] to confirm.
Factory setting: ***MODE 1***

5. To finish the setting (→ page 36)

Note

- Select "***MODE 1*** " or "***MODE 2*** " according to the improvement of sound.

FM frequency step

If the correct FM frequency cannot be tuned in, change the frequency step to suit your area.

1. To enter the SETUP (→ page 36)

2. Press [▲][▼] to select "*TUNER* ", and press [OK] to confirm.

3. Press [▲][▼] to select "*FM STEP* ", and press [OK] to confirm.

4. Press [▲][▼] to select "*100* " or "*200* ", and press [OK] to confirm.
Factory setting: ***200kHz***

5. To finish the setting (→ page 36)

Note

- When the frequency step is changed, the previously memorized preset stations are initialised to the settings made at the time of shipment.

Other information

Notes on "To connect bi-wire speakers"

Bi-wire speakers have separate connection terminals for high frequency and low frequency signals (➔ page 22).

- Bi-wiring prevents high frequency and low frequency signals from interfering with each other. It offers playback in high audio quality.
- HF and LF stand for high frequency and low frequency, respectively.

Notes on "Using surround speakers wirelessly with SH-FX67"

- Audio output changes as follows when you use surround speakers wirelessly (➔ page 23).
  - The maximum number of playback channels is 7.1. (2 sets of SH-FX67 are necessary.)
  - See SH-FX67's operating instructions for setting surround selector on SH-FX67 to enjoy 7.1ch playback.

☞ **To perform the auto speaker setup using the supplied setup microphone**

Insert digital transmitter before performing the setup. Settings made with the setup microphone are cancelled when you insert or remove the transmitter after performing the setup.

Digital signals that can be played on this unit

- Depending on the connected equipment, the playback condition differs. (Playback may be impossible if not supported.)
  See operating instructions of playback equipment for more information.
- See "Glossary" (➔ page 52) for more detailed information on each signal.

■ Dolby Digital (including Dolby Digital Surround EX, Dolby Digital + and Dolby TrueHD)

Blu-ray disc, DVD etc.

■ DTS (including DTS-ES, DTS 96/24 and DTS-HD)

Blu-ray disc, DVD etc.

■ PCM (2-channel)

CD, DVD audio etc.

- This unit's HDMI terminals and COAXIAL DIGITAL IN terminal can play up to 192 kHz and OPTICAL DIGITAL IN terminals can play up to 96 kHz.
- Frequencies appear on the display when the unit receives input signals transmitted at the frequencies of 88.2 kHz, 96 kHz, 176.4 kHz, and 192 kHz

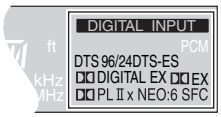
.

■ Multi-channel LPCM (Linear PCM)

Blu-ray disc, DVD audio etc.

- When you make HDMI connections, the multi-channel LPCM signal can be played back up to 192 kHz.

Audio signal displays



DIGITAL
Dolby Digital decoder is being used.

DIGITAL EX
Dolby Digital EX decoder (Dolby Pro Logic IIx decoder) is being used when the input signal is Dolby Digital 5.1-channel or Dolby Digital EX.
(Displayed only when you connect one surround back speaker.)

EX
Dolby Digital EX decoder (Dolby Pro Logic IIx decoder) is being used when the input signal is DTS 5.1-channel.
(Displayed only when you connect one surround back speaker.)

PL IIx
Dolby Pro Logic IIx decoder is being used.

PL II
The display informs Dolby Pro Logic IIx (the Dolby Pro Logic II decoder) is used on 2-channel stereo sources when surround back speakers are absent.

DTS
DTS decoder is being used.

DTS 96/24
DTS 96/24 decoder is being used.

DTS-ES
DTS-ES decoder is being used.

NEO:6
DTS NEO:6 decoder is being used.

SFC
SFC matrix function is being used.

Notes on "AUTO SPEAKER SETUP"

- Speaker placement, speaker directions and other conditions may prevent correct setting.
- The unit sets the lowpass filter frequency at the value of the speaker capable of reproducing the lowest frequency signal among speakers judged as "***SMALL*** ".
- When left and right speakers differ in size, they are set as "***SMALL*** ".
- When surround speakers and surround back speakers differ in size, they are set as "***SMALL*** ".
- Left and right front speakers are set as "***LARGE*** " even if their size is "***SMALL*** " when you perform the auto speaker setup without connecting the subwoofer.
- The unit does not detect or correct polarity of left and right front speakers when you select "***YES*** " in "Making bi-wire setting" (➔ page 38).
- HDAVI Control (➔ page 32) does not work during the auto speaker setup.
- The auto speaker setup is unavailable while muting (➔ page 31) is on.
- The unit sets at 15 meters (45 feet) the distance of speakers located more than 15 meters (45 feet) away from the seating area. The set distance is displayed as "***OVER*** " (➔ page 37).
- Speakers whose polarity was automatically adjusted are displayed with "**–** " such as "***L 3.0 –*** " (➔ page 37).

Notes on Speaker size

LARGE
Speakers that can sufficiently reproduce enough bass range.

SMALL
Speakers that do not satisfy the requirements for LARGE speakers. Enough bass range can be produced, if you install the subwoofer.
You can perform steps instructed in “Setting speakers and their sizes” (➔ page 37) to change speaker sizes set automatically.

Notes on Lowpass filter

- When the speaker size is “***SMALL*** ”, the unit cannot sufficiently reproduce the bass range.
- You can set the lowpass filter frequency according to the playback frequency range and arrange the unit to output the missing bass range from the subwoofer.

Notes on “SPEAKERS B”

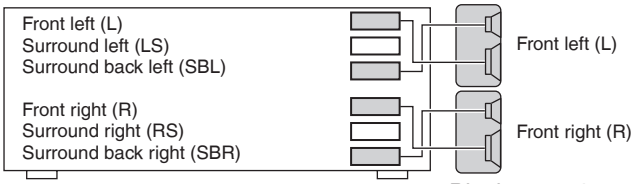
- Playback is in 2-channel stereo when you select **SPEAKERS B** only.
- If a surround source is played back when only **SPEAKERS B** is selected, “**2CH MIX**” is displayed on the display.
- Selected speakers output sounds assigned to front 2 channels when you make ANALOG 8CH connections.
- If you select **SPEAKERS B** only, the following are set automatically irrespective of settings selected in “Setting speakers and their sizes” (➔ page 37).
  Speaker size: “***LARGE*** ”
  Subwoofer: “***NO*** ” (Bass is output from the front speakers.)
- Settings made through the auto speaker setup (➔ pages 24 and 25) are cancelled.

Notes on “BI-AMP”

This function activates automatically when you play analog audio sources or 2-channel PCM signals through bi-wire connections.

- The unit takes advantage of the front speaker and the surround back speaker amps, and drives the speakers’ high-frequency and low-frequency ranges separately when this function is on.
- Press [SURROUND] off (➔ page 29).
- You cannot use BI-AMP with analog 8-channel connections.
- The “BI-AMP” indicator stays on while BI-AMP is at work (➔ page 6).

This unit



Bi-wire speakers

Note for analog 8-channel connections

Make the setting on equipment that matches the Blu-ray Disc/ DVD player.

Note for speaker detection and size setting

☞ **When you set the front speakers (“*L* ”, “*R* ”) as “*LARGE* ”**

- The subwoofer also makes audio output in the bass range when you perform stereo playback of analog and PCM sources.
- The subwoofer sends out only the LFE (low frequency effect channel) signal contained in 2-channel Dolby Digital or DTS sources when you play them in stereo.
- The following are set automatically.
  When you set “***LR*** ” to “***SMALL***”, “***SUBW*** ” is set to “***YES*** ”.
  When you set “***SUBW*** ” to “***NO*** ”, “***LR*** ” is set to “***LARGE*** ”.
- “***SB*** ” does not appear when “***S*** ” is set to “***NONE*** ”.
- The “***SB*** ” size becomes the “***S*** ” size because the unit does not offer “***SB*** ” size setting.
- When you change the number of connected speakers, settings made with the setup microphone are cancelled (➔ pages 24 and 25).
- See “Notes on Speaker size” (➔ left) for more details.

Notes on “Playing an iPod on this unit”

Compatible iPod for this unit

Name	Memory size
iPod touch	8 GB, 16 GB
iPod nano 3rd generation (video)	4 GB, 8 GB
iPod classic	80 GB, 160 GB
iPod nano 2nd generation (aluminum)	2 GB, 4 GB, 8 GB
iPod 5th generation (video)	60 GB, 80 GB
iPod 5th generation (video)	30 GB
iPod nano 1st generation	1 GB, 2 GB, 4 GB
iPod 4th generation (color display)	40 GB, 60 GB
iPod 4th generation (color display)	20 GB, 30 GB
iPod 4th generation	40 GB
iPod 4th generation	20 GB
iPod mini	4 GB, 6 GB

* Compatible iPod correct as of May 2008.

Note

- Compatibility depends on the software version of your iPod.
- Audio/video cannot be recorded or transmitted to iPods or vice versa via this unit.
- Panasonic makes no warranty over iPod data management.
- For more information, refer to the operating instructions for iPod.
- The contents of the operating instructions and those displayed on iPod may differ partially, but this will not fundamentally affect use of music playback.

Glossary

Analog
Audio signals produced from L/R audio output terminals of general equipment is called analog audio.

CPPM (Content Protection for Prerecorded Media)
This is the copyright protection technology which prevents file copy of DVD audio.

Decoder, Decode
Decoder is the device to enable us to hear audio data that is encoded on DVD, etc., as a normal audio signal. This process is called Decode.

Deep Color
This unit incorporates HDMI™ (V.1.3 with Deep Color) technology that can reproduce greater color gradation (4096 steps) when connected to a compatible TV.
You can enjoy exceptionally rich, natural-looking colors, with smooth, detailed gradation and minimal color banding.
[A lower color gradation (256 steps), without deep color, will be reproduced if connected to a TV which does not support deep color.]

Digital
DVD recorders, Blu-ray Disc/DVD players, and CD players are usually equipped with digital output terminals. Connect through the digital terminal to enjoy digital surround systems such as Dolby Digital and DTS.

Dolby Digital
Digital audio compression technology developed by Dolby Laboratories, Inc. Compatible with surround sound as well as 2-channel stereo sound. With this technology, you can keep massive amount of audio data efficiently.

Dolby Digital +
Improved version of Dolby Digital. It offers higher-audio quality, support for multi-channel (5.1-channel and more) and increased bitrates.

Dolby Digital Surround EX
Improved version of Dolby Digital. You can playback 6.1-channel sound by adding surround center to 5.1-channel compatible with Dolby Digital.

Dolby Pro Logic Ⅱ/Dolby Pro Logic Ⅱx
This technology converts any 2-channel source recorded including Dolby surround into 5.1/7.1 or 6.1-channel sound with more realistic sound effects. You can enjoy old movies recorded in conventional 2-channel sounds (excluding monaural sounds) as they are converted to dynamic 5.1/7.1 or 6.1-channel sound.

Dolby TrueHD
Dolby TrueHD is an advanced version of MLP lossless method used for DVD audio. This is a high-quality audio method which enables complete playback of audio data made through a mastering studio.
Dolby TrueHD can only be used for Blu-ray Disc, etc, but is not applicable to DVD audio format.

DTS (Digital Theater Systems)
Surround system used in most movie theaters. Separation works well between channels, resulting in realistic surround effects.

DTS 96/24
This is higher-quality DTS with 96 kHz/24 bit and used for DVD-Video. 48 kHz/24 bit playback is possible on systems incompatible with DTS 96/24 due to backward compatibility.

DTS-ES
Improved version of DTS. You can playback 6.1-channel sound by adding surround center to 5.1-channel.

DTS-HD
Audio technology enhanced in sound quality and functions based on DTS (used at movie theaters). You can playback DTS-HD sound as DTS on conventional AV amplifiers due to backward compatibility.
Depending on the encoding methods and bitrates, DTS is classified into three types: DTS-HD Master Audio, DTS-HD High Resolution Audio and DTS Digital Surround.
The format itself supports up to 2048 channels, but the maximum number of channels for next-generation DVD (Blu-ray Disc, etc.) is 8ch (7.1ch).

Dynamic range
Dynamic range is the difference between the lowest level of sound that can be heard above the noise of the equipment and the highest level of sound before distortion occurs.

HDMI (High Definition Multimedia Interface)
HDMI enables you to transmit digital audio and video signals using a single cable.
You can also transmit control signals using HDMI connections.

LPCM (Linear PCM)
This is one of the PCM methods and the uncompressed audio signal encoded digitally. This method is used for music CD, etc. Multi-channel LPCM signals used for Blu-ray Disc, DVD audio, etc. enable playback with higher-sound quality.

Optical
Using optical fiber cable for digital signal input/output from DVD, CD, etc., provides better sound quality for playback or recording compared to analog.

PCM (Pulse Code Modulation)
This is one of the methods that enables analog sounds to be converted to digital sounds.

Sampling frequency
Sampling is the process of converting the heights of sound wave (analog signal) samples taken at set periods into digits (digital encoding).
Sampling frequency is the number of samples taken per second, so larger numbers mean faithful reproduction of the original sound.

Surround signal
Audio signal made up with front speakers, center speaker and surround speakers.

x.v.Color
This is a name of products compliant with ISO Standard for wider color space: “xvYCC”.

1080p
This is one of the digital hi-vision images.
1080 is the number of effective scanning lines that constitute the actual screen. This enables every detail to be beautifully expressed. Images are less flickered with progressive method that scans in order from the top.

Error messages

	Message	Cause/countermeasure
1	***U701***	The equipment connected by the HDMI cable is not compatible with the unit's copyright protection technology.
2	***U703***	Should anything unusual happen using an HDMI connection: Consult your dealer if the sign remains on the display after these steps. • Turn the connected equipment off and on again. • Pull out the HDMI cable then reinsert it. • Reduce the number of equipment connected in series to the HDMI terminal if exceeding 2 units.
3	***U704***	The unit has received a signal for a picture format that is incompatible with the HDMI connection. Check the settings of the connected equipment.
4	***REMOTE 1*** **or** ***REMOTE 2***	Match the modes on the main unit and the remote control.
5	***CANCEL MUTING FUNCTION***	Muting is on. Press [MUTING] on the remote control to cancel the function (➔ page 31).
6	***NO C AND LS/RS SPEAKERS***	Center and surround speakers are set as absent. Change their setting to present (➔ page 37).
7	***NO LS/RS SPEAKERS***	Surround speakers are set as absent. Change their setting to present (➔ page 37).
8	***NO LS/RS AND SBL/SBR SPEAKERS***	Surround and surround back speakers are set as absent. Change their setting to present (➔ page 37).
9	***NO SBL/SBR SPEAKERS***	Surround back speakers are set as absent. Change their setting to present (➔ page 37).
10	***NOT POSSIBLE FOR ANALOG 8CH INPUT***	You are trying to use the effect unavailable for analog 8-channel playback.
11	***NOT POSSIBLE FOR THIS INPUT SOURCE***	You are trying to use the effect unavailable for the current input source.
12	***PCM FIX*** (flashing)	The unit is in the "PCM FIX" mode. Cancel this mode (➔ page 39).
13	***SELECT SPEAKER A***	"SPEAKERS A" is off. Select "SPEAKERS A" (➔ page 26).
14	***SPEAKERS ARE OFF***	"SPEAKERS A" and "SPEAKERS B" are off. Select "SPEAKERS A" or "SPEAKERS B" (➔ pages 26 and 27).
15	***NOT SUPPORT FOR THIS WIRELESS SYSTEM***	Not compatible with this wireless system (➔ page 23).

Troubleshooting guide

Before requesting service, make the following checks. If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to “Customer Services Directory” on page 57 if you reside in the U.S.A., or refer to “Product information” on page 59 if you reside in Canada.

		Pages
No power.	• Ensure the AC power supply cord is connected.	**12**
No sound. **Sound is distorted.**	• Check that the volume is adequate. • Select either “SPEAKERS A ” or “SPEAKERS B ” if the speakers indicator is off. • Select the correct input source. • Cancel the “MUTING ” function. • Check that the signals can be decoded by this unit. • Check connections to speakers and other equipment. • Check that the input setting suits the type of connection you have made. • Cancel the PCM FIX. • Recording of some DVD-Audio may not be possible to be played due to copyright protection.	**15, 26** **24, 26, 27** **15, 26** **31** **50** **10 to 13, 16 to 23** **39** **39** **–**
Sound stops. **“*F61* ” appears on the display for about a second, and the unit turns off.**	• Check that ⊕ and ⊖ of speaker cable is interfering each other. • Check that speaker impedance is lower than tolerance of the unit. • Straining of the speakers through excessive volume or power. • This may occur if you use the unit in an extremely hot environment. • Curtains or other objects may be blocking the exhaust hole. ⇨ Determine and correct the cause, then turn the unit on. (The protection circuit is reset.) (Consult your dealer if the problem persists.)	**10** **10, 22** **–** **–** **–**
“*F76* ” appears on the display and the unit turns off.	• Turn the unit off, disconnect the AC power supply cord, and consult your dealer.	**–**
“*F70* ” appears on the display.	• Turn the unit off, disconnect the AC power supply cord, and consult your dealer.	**–**
Display is dim.	• Cancel “DIMMER”.	**37**
Clicking sound is heard during play.	• Depending on the input signal when playing DVD etc., the BI-AMP function changes automatically. A clicking sound is heard when it changes. This does not mean a problem with the unit.	**–**
“*MEASURING ERROR* ” appears on the display.	• A speaker is too far. Check speaker locations. • An error occurred from a cause that cannot be identified. Perform the auto speaker setup again.	**24, 25** **–**
When speaker distances are set (➔ page 37), “–” appears on the display with the speaker name such as “*L 3.0 –* ”.	• It appears when polarity of a speaker is automatically adjusted. ➔ You can set speakers against automatic polarity adjustment.	**38**
When speaker distances are set (➔ page 37), “*OVER* ” appears on the display.	• It appears when the measured distance exceeds 15 meters (45 feet). Check the speaker location.	**–**
Sound is not heard from the center, surround or subwoofer speakers.	• Ensure the speaker settings for your speakers are correct. • Confirm Dolby Pro Logic IIx, NEO:6, or SFC settings, and select an adequate mode. • Press [SURROUND] on when you play 2-channel stereo sources.	**24, 25, 37** **28 to 30** **13, 29**
Sound is not heard from the surround back speaker.	• Ensure the speaker settings for your speakers are correct. • Press [SURROUND] on.	**24, 25, 37** **13, 29**
Dolby Pro Logic IIx, NEO:6, and SFC are unavailable.	• Check if the center speaker, surround speakers, and surround back speakers are connected properly. • Press [SPEAKERS A] on. • Cancel ANALOG 8CH playback. • You cannot use the effect when the input source contains dual audio signals in Dolby Digital or DTS formats.	**10, 11** **26** **27** **–**
There is no DTS audio output. **There is audio output, but the DTS decoder indicator is not lit.**	• Set the DTS Digital Audio Output setting on the Blu-ray Disc/DVD player or DVD recorder to “Bitstream”.	**–**
The radio cannot be tuned in or there is a lot of noise and interference.	• Connect the appropriate antenna. (You may need an outdoor antenna or one with more elements.) • Adjust the position of the FM or AM antenna. • Reduce the treble. • Turn off nearby televisions, video decks, DVD recorders, Blu-ray Disc/DVD players, and satellite receivers. • Separate the antenna from other cables, cords, and appliances.	**23** **23** **34** **–** **–**

		Pages
There is a lot of noise when listening to AM.	• Try changing the BEAT PROOF mode.	**49**
The correct FM frequency cannot be tuned in.	• Change the frequency step to suit your area when FM is selected.	**49**
When using an HDMI connection, the first few seconds of sound is cut off.	• Should you be playing a chapter on a DVD etc.: – Change the audio output setting on the Blu-ray Disc/DVD player or DVD recorder from “Bitstream” to “PCM”. (6.1-channel sources will however be played as 5.1-channel.) – Select “***PCM***” as instructed in “Setting input signals” when you play 2-channel stereo sources.	– **39**
The unit does not work properly.	• The unit does not work properly when wrong cords are in HDMI input and output terminals. Turn the unit off, unplug the AC power supply cord, and make connections again.	**12, 13, 16**
VIERA Link does not function properly.	• Confirm “Setting VIERA Link to “***OFF***”” is set to “***ON***”. When it is “***OFF***”, change to “***ON***”. • VIERA Link does not function in power saving standby mode when this unit is turned off. See “Reducing standby power consumption (power save mode)” and set to “***ON***” (normal power consumption). • Check VIERA Link settings of the connected equipment. • VIERA Link may not function when you change the connections for HDMI equipment, insert and remove the outlet, or during blackout. Do the following operations in this case. – Turn the TV (VIERA) on again while all the equipment connected with HDMI cables are on. – Set “VIERA Link (HDMI equipment control)” of TV (VIERA) to “OFF” and then set to “ON” again. (For details, refer to the operating instructions for TV (VIERA).) – Connect this unit to TV (VIERA) using the HDMI cable, switch the TV (VIERA) on, unplug this unit’s AC power supply cord, and insert it into a household AC outlet again.	**40** **40** – –
When more than one piece of equipment are connected to HDMI input terminal, some of them turn on and off automatically.	• Some of the linked operations apply to the connected equipment that is VIERA Link compatible. To prevent this, set the connected equipment (DVD recorder (DIGA) and others) against VIERA Link.	–
The remote control doesn’t work.	• Replace the batteries if they are worn.	**7**
Other products respond to the remote control.	• Change this unit’s remote control mode to “***REMOTE 2***”.	**42**

Maintenance

Unplug the AC power supply cord from the household AC outlet and wipe the unit using a soft and dry cloth.

- When the unit is very dirty, wring the cloth soaked in water thoroughly, wipe the dirt and wipe moisture off with a dry cloth.
- Do not use solvents such as benzine, thinner, alcohol, etc. because they may cause casing to deform and coating to go off.
- Before using chemically treated cloth, read the instructions that come with the cloth carefully.

Specifications

■ AMPLIFIER SECTION

Rated minimum sine wave RMS power output
20 Hz - 20 kHz both channels driven (with AES17 filter)
0.7 % total harmonic distortion 130 W per channel (6 Ω)
Total harmonic distortion
rated power at 20 Hz - 20 kHz 0.7 % (6 Ω)
Power output each channel driven at 20 Hz - 20 kHz (with AES17 filter)
0.7 % total harmonic distortion
Front (L/R) 130 W (6 Ω)
Center 130 W (6 Ω)
Surround (L/R) 130 W (6 Ω)
Surround Back (L/R) 130 W (6 Ω)
Load impedance
Front (L/R)
A or B 4 to 8 Ω
A and B 6 to 8 Ω
BI-WIRE 4 to 8 Ω
Center 6 to 8 Ω
Surround (L/R) 6 to 8 Ω
Surround Back (L/R) 6 to 8 Ω
Frequency response
CD, AUX, TV, GAME, CABLE/SAT, VCR, DVD RECORDER, BD/DVD PLAYER / ANALOG 8CH IN, OPTION PORT 4 Hz to 40 kHz, ±2 dB
Input sensitivity and impedance
CD, AUX, TV, GAME, CABLE / SAT, VCR, DVD RECORDER, BD/DVD PLAYER / ANALOG 8CH IN, OPTION PORT 16 mV (200 mV, IHF'66) 22 kΩ
Subwoofer frequency response (-6 dB) 7 Hz to 200 Hz
S/N (IHF A)
CD, TV, BD/DVD PLAYER, DVD RECORDER (Digital Input) 97 dB, IHF'66
Tone controls
BASS 50 Hz, +10 to -10 dB
TREBLE 20 kHz, +10 to -10 dB
Output voltage
DVD RECORDER 200 mV

Digital input	**(OPTICAL)**	3
	(COAXIAL)	1

HDMI	**Input**	**(Corresponding Deep Color)**	3
	Output	**(Corresponding Deep Color)**	1

This unit supports "HDAVI Control 3" function.

■ FM TUNER SECTION

Frequency range 87.9 to 107.9 MHz (200 kHz steps)
87.5 to 108.0 MHz (100 kHz steps)
Sensitivity 11.2 dBf (2 µV, IHF'58)
Total harmonic distortion
MONO 0.5 %
STEREO 0.7 %
S/N
MONO 73 dB
STEREO 67 dB
Alternate channel selectivity 65 dB
Antenna terminal 75 Ω (unbalanced)

■ AM TUNER SECTION

Frequency range 520 to 1710 kHz

■ OPTION PORT SECTION

An exclusive terminal for SH-PD10 (option) 1

■ VIDEO SECTION

Output voltage at 1 V input (unbalanced) 1±0.1 Vp-p
Maximum input voltage 1.5 Vp-p
Input/output impedance 75 Ω

Composite Video	**Input**	BD/DVD PLAYER, DVD RECORDER, VCR, CABLE/SAT, GAME, AUX
	Output	DVD RECORDER, TV MONITOR
S-Video	**Input**	BD/DVD PLAYER, DVD RECORDER, VCR, CABLE/SAT, GAME, AUX
	Output	DVD RECORDER, TV MONITOR
Component Video	**Input**	BD/DVD PLAYER, DVD RECORDER, CABLE/SAT
	Output	TV MONITOR

■ GENERAL

Power supply AC 120 V, 60 Hz
Power consumption 150 W
Dimensions (W x H x D) 430 mm x 158.5 mm x 339 mm (16-15/16" x 6-1/4" x 13-11/32")
Mass (Weight) Approx. 5 kg (11 lb.)
Operating temperature range 0°C to 40°C (32°F to 104°F)
Operating humidity range 20% to 80% RH (no condensation)

Power consumption in standby mode:	0.7 W
Power consumption in HDMI off mode:	0.4 W

Notes:
1. Specifications are subject to change without notice.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

Limited Warranty (Only for the U.S.A.)

Panasonic Consumer Electronics Company,
Division of Panasonic Corporation of North America
One Panasonic Way Secaucus, New Jersey 07094

Panasonic Puerto Rico, Inc.
Ave. 65 de Infantería, Km. 9.5
San Gabriel Industrial Park, Carolina, Puerto Rico 00985

Panasonic Audio Products Limited Warranty

Limited Warranty Coverage
If your product does not work properly because of a defect in materials or workmanship, Panasonic Consumer Electronics Company or Panasonic Puerto Rico, Inc. (collectively referred to as "the warrantor") will, for the length of the period indicated on the chart below, which starts with the date of original purchase ("warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

Product or Part Name	Parts	Labor
Audio Products (except items listed below)	One (1) year	One (1) year
USB Reader-Writer, Personal Computer Card Adapters (in exchange for defective item)	One (1) year	Not Applicable
Accessories: Headphones, Cartridges, Microphones, Adapters	Ninety (90) days	Ninety (90) days
Rechargeable Batteries, DVD-R/-RAM Discs (in exchange for defective item)	Ten (10) days	Not Applicable
SD Memory Cards, Rechargeable Battery Packs (in exchange for defective item)	Ninety (90) days	Not Applicable

During the "Labor" warranty period there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must carry-in or mail-in your product during the warranty period. If non-rechargeable batteries are included, they are not warranted. This warranty only applies to products purchased and serviced in the United States or Puerto Rico. This warranty is extended only to the original purchaser of a new product which was not sold "as is". A purchase receipt or other proof of the original purchase date is required for warranty service.

Carry-In or Mail-In Service
For Carry-In or Mail-In Service in the United States call 1-800-211-PANA (1-800-211-7262) or visit Panasonic web site: http://www.panasonic.com
For assistance in Puerto Rico call Panasonic Puerto Rico, Inc. (787)-750-4300 or fax (787)-768-2910.

Limited Warranty Limits And Exclusions
This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or commercial use (such as in a hotel, office, restaurant, or other business), rental use of the product, service by anyone other than a Factory Servicenter or other Authorized Servicer, or damage that is attributable to acts of God.
THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, travel to and from the servicer, loss of media or images, data or other memory content. The items listed are not exclusive, but are for illustration only.) **ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.**
Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state. If a problem with this product develops during or after the warranty period, you may contact your dealer or Servicenter. If the problem is not handled to your satisfaction, then write to the warrantor's Consumer Affairs Department at the addresses listed for the warrantor.
PARTS AND SERVICE WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY ARE YOUR RESPONSIBILITY.

Customer Services Directory

Obtain Product Information and Operating Assistance; locate your nearest Dealer or Servicenter; purchase Parts and Accessories; or make Customer Service and Literature requests by visiting our Web Site at:
http://www.panasonic.com/consumersupport
or, contact us via the web at:
http://www.panasonic.com/contactinfo
You may also contact us directly at: 1-800-211-PANA (7262),
Monday-Friday 9 am-9 pm; Saturday-Sunday 10 am-7 pm, EST.

For hearing or speech impaired TTY users, TTY: 1-877-833-8855

Accessory Purchases

Purchase Parts, Accessories and Instruction Books online for all Panasonic Products by visiting our Web Site at:
http://www.pstc.panasonic.com
or, send your request by E-mail to:
npcparts@us.panasonic.com
You may also contact us directly at: 1-800-332-5368 (Phone) 1-800-237-9080 (Fax Only)
(Monday - Friday 9 am to 9 pm, EST.) Panasonic Service and Technology Company
20421 84th Avenue South, Kent, WA 98032 (We Accept Visa, MasterCard, Discover Card, American Express, and Personal Checks)

For hearing or speech impaired TTY users, TTY: 1-866-605-1277

Service in Puerto Rico

Panasonic Puerto Rico, Inc.
Ave. 65 de Infantería, Km. 9.5, San Gabriel Industrial Park, Carolina, Puerto Rico 00985
Phone (787)750-4300, Fax (787)768-2910

Limited Warranty (Only for Canada)

Panasonic Canada Inc.

PANASONIC PRODUCT – LIMITED WARRANTY

Panasonic Canada Inc. warrants this product to be free from defects in material and workmanship and agrees to remedy any such defect for a period as stated below from the date of original purchase.

Technics Audio Product	**One (1) year, parts and labour**
Panasonic Portable / Clock Radio (without Tape, CD, MD)	**One (1) year, parts and labour**
Panasonic Audio / SD Audio Product	**One (1) year, parts and labour**
Panasonic DVD Product	**One (1) year, parts and labour**
Panasonic Combination DVD Player / VCR	**One (1) year, parts and labour**
Panasonic Combination DVD Recorder / VCR	**One (1) year, parts and labour**
Accessories including rechargeable batteries	**Ninety (90) days**

LIMITATIONS AND EXCLUSIONS

This warranty does not apply to products purchased outside Canada or to any product which has been improperly installed, subjected to usage for which the product was not designed, misused or abused, damaged during shipping, or which has been altered or repaired in any way that affects the reliability or detracts from the performance, nor does it cover any product which is used commercially. Dry cell batteries are also excluded from coverage under this warranty.
This warranty is extended to the original end user purchaser only. A purchase receipt or other proof of date of original purchase is required before warranty service is performed.
THIS EXPRESS, LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
IN NO EVENT WILL PANASONIC CANADA INC. BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES.
In certain instances, some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or the exclusion of implied warranties, so the above limitations and exclusions may not be applicable.

WARRANTY SERVICE

FOR PRODUCT OPERATION ASSISTANCE, please contact:

Our Customer Care Centre:	Telephone #:	(905) 624-5505
	1-800 #:	1-800-561-5505
	Fax #:	(905) 238-2360
	Email link:	“Customer support” on www.panasonic.ca

FOR PRODUCT REPAIRS, please locate your nearest Authorized Servicentre at www.panasonic.ca :

Link : “Servicentres™ locator” under “Customer support”

IF YOU SHIP THE PRODUCT TO A SERVICENTRE
Carefully pack and send prepaid, adequately insured and preferably in the original carton.
Include details of the defect claimed, and proof of date of original purchase.

Product Service

1. **Damage requiring service** — The unit should be serviced by qualified service personnel if:
   (a) The AC power supply cord or the plug has been damaged; or
   (b) Objects or liquids have gotten into the unit; or
   (c) The unit has been exposed to rain; or
   (d) The unit does not operate normally or exhibits a marked change in performance; or
   (e) The unit has been dropped or the cabinet damaged.

2. **Servicing** — Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.

3. **Replacement parts** — When parts need replacing ensure the servicer uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other hazards.

4. **Safety check** — After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

The servicer will require all components to service your system. Therefore, should service ever be necessary, be sure to bring the entire system.

Product information

For product information or assistance with product operation:

In the U.S.A., refer to “Customer Services Directory” on page 57.

In Canada, contact the Panasonic Canada Inc. Customer Care Centre at 1-800-561-5505, or visit the website (www.panasonic.ca), or an authorized Servicentre closest to you.

The model number and serial number of this product can be found on either the back or the bottom of the unit.
Please note them in the space provided below and keep for future reference.

MODEL NUMBER SA-BX500

SERIAL NUMBER _____

User memo:

DATE OF PURCHASE _____
DEALER NAME _____
DEALER ADDRESS _____
_____
TELEPHONE NUMBER _____

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